The Veterinary Record.

(Founded by William Hunting, F.R.C.V.S., 1888.)

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Annual Report of Proceedings under the Diseases of Animals Act for the year 1925.

A Record of Work Well Done.

For clearness and conciseness in the rendering of an account of State duty which is admittedly a difficult and heavy one, it would be well-nigh impossible to surpass the Report of the Chief Veterinary Officer of the Ministry of Agriculture and Fisheries. No redundancy is shown, and the essential basic points of the measures adopted by Government have been carefully picked out, explained, and used as object lessons or pointers for good order and progressive action. To the practical man engaged in agricultural and livestock industry, the report cannot fail to be of deep interest, and to be informed so simply and exactly how the country stands in relation to contagious animal disease, and the manner in which measures have been and are to be applied to meet it, goes a long way towards establishing a freedom from those epizootics which are so prone to prevail.

The report is divided into three major headings or parts. Part I. deals with the position of Great Britain as to animal diseases, such diseases as have come within the purview of the Ministry during the year being severally remarked on, and supported by statistics quoted in appendices. Part II. relates to importation and exportation, and to protection during transit. Part III. gives a short account of the administrative undertakings of the veterinary laboratory at New Haw, Weybridge, only, the research work of that institution having been dealt with in special reports. Also, for convenience of reference, the report includes, as appendices :—

(*a*) A summary of the Foot-and-mouth Disease (Infected Areas Restrictions) Order of 1925 ;

(*b*) Important circular letters to local authorities relating to the power of local authorities to make regulations under the Foot-and-mouth Disease Order ; to certain matters affecting local administration arising out of the report of the Departmental Committee on Foot-and-mouth Disease, 1925 ; and to the Foot-and-mouth Standstill Order ;

(*c*) Tuberculosis Orders, 1925, and circular letters to local authorities concerning them.

In this review it is proposed to deal only with Parts I. and II.

Part I.—Position of Great Britain as to Animal Diseases.

As an introduction, it is briefly and clearly explained that any person having in his possession an animal which is affected, or appears to be affected, with any disease scheduled under the Diseases of Animals Acts, excepting contagious abortion of cattle, is required by law to give notice of the same to the local police, and to keep the animal or animals isolated. Subsequent procedure is laid down in appropriate Orders relating to each disease, and such Orders are included in a Handbook published by the Ministry, a revised edition of which is being issued in 1926. Contagious abortion in cattle is not notifiable, conditions in respect to this disease rendering it unsuitable for action otherwise than as provided for in the Epizootic Abortion Order of 1922.

Foot-and-mouth Disease.—Occurrence was divided into two periods, *viz.* :—

(*a*) The first nine months of the year, in which outbreaks were of a sporadic nature, with no substantial spread, embracing 15 centres, ten of which were "initial," three recurrences on premises previously affected, and one possibly due to a "carrier" affected under isolation fourteen months previously. In this period, 2,207 animals were slaughtered and £35,216 7s. 6d. paid in compensation.

(*b*) The last three months of the year, when incidence was serious, involving the slaughter of 17,756 animals and compensation at £270,078. So sudden and grave was the disease that in four weeks from the middle of October to the middle of November, there were 13 centres of infection, with 151 infected premises in 14 counties from Lancashire and the West Riding of Yorkshire in the north to Sussex in the south. Nine markets were proved to have been affected, from which 38 outbreaks directly resulted, Blackburn being responsible for 26. The most heavily-infected counties were Lancashire (64 outbreaks), Wiltshire (53), Staffordshire (23), Yorkshire West Riding (17), Leicestershire (15), Gloucestershire (13) ; and so serious had the situation grown that the Ministry on the 17th November were led to super-impose on the already intensive measures in actual infected areas, an Order popularly known as the "Standstill" Order—The Midlands and South of England (Regulation of Movement of Animals) Order, 1925, an Order which was made applicable to areas surrounding existing centres of disease, acting in the nature of a safety zone (termed the Regulated Area) prohibiting the holding of markets of store animals in that area, movements out of, to any free area, and controlling movements into and within it. The imposition of this Order was salutary ; the tide of infection was quickly checked, and rapidly diminished during December.

Many of the measures adopted during the year were taken on the recommendation of the Departmental Committee appointed under the chairmanship of The Right Hon. E. G. Pretyman, in 1924, and may be briefly summarised as follows :—

(1) The Foot-and-mouth Disease (Emergency Restrictions) Order of 1925, providing for the automatic application of restrictions on movement of animals

over an area of five miles' radius from a suspected case pending a definite diagnosis by the Ministry.

(2) The Foot-and-mouth (Infected Areas Restrictions) Order of 1925, a most important Order, giving effect to all the recommendations of the Committee as regards restrictions applicable to infected areas, and setting forth the restrictions in a more simplified form than previously, including a model form of movement licence. In pursuance, also, to one of the Committee's recommendations, the "15-mile" infected area is now reduced to one of 5 miles' radius after 14 days in ordinary cases, instead of 21 days as formerly, and all restrictions are removed after 28 days from the date of the last outbreak.

3. Supply of disinfectable clothing to veterinary inspectors by local authorities, all veterinary inspectors being required to ensure personal disinfection.

4. Salvage of carcases to be dispensed with in an initial outbreak as more conducive to speedy eradication, the delay occasioned by salvage constituting a risk of spread.

5. Regulations of local authorities to be submitted to the Ministry for confirmation before becoming operative.

6. Local Organisation—a circular letter being issued by the Ministry directing the attention of local authorities to points in the Departmental Committee's report affecting local administration.

7. Propaganda through branches of the National Farmer's Union.

8. Responsibilities of veterinary practitioners in reporting suspicious symptoms of the disease, and taking every precaution by personal disinfection to prevent conveyance of infection in the course of professional visits.

9. Foot-and-mouth Disease (Packing Materials) Order of 1925, prohibiting hay or straw from any source used for packing to be brought in contact with any animal, and requiring it to be destroyed if not used for packing (it may now be returned in empty cases to senders). The Order also prohibits the sale or storage at any livestock market of horticultural products packed in hay or straw; and forbids meat wrappings (unless sterilised after use), boxes, crates, etc., used for the conveyance of meat or meat products from being brought into contact with animals.

(10.) The Markets, Sales and Lairs Order of 1925, requiring the provision of paved accommodation at places habitually used for the reception of animals prior to or after sale, and prescribing the method of disinfection.

(11.) Movement of Animals (Records) Order of 1925, which provides for the easy tracing of animals which have been in contact with diseased or suspected animals, a record of movement being required to be kept in specified form by any person, be he farmer or dealer, who moves or permits to be moved any animal to or from any premises.

Other minor measures are dealt with, such as the removal of animals from pastures to enclosed yards in an infected area, movement of fat stock out of an infected area to another infected area, movement of poultry, rabbits and hares, whether dead or alive, and the special provision which has to be made in respect to Christmas Fat Stock Shows and Sales is commented on and explained.

The report takes up the criticisms which have been made against the Ministry's policy in respect to the disease, notably with regard to slaughter *versus* isolation, and the imposition of the "15-mile" radius. The wisdom of the Ministry's policy, supported by the findings of the Departmental Committee on both these points is strongly defended. In summing up, of the one, it says: "Isolation would necessitate the prolongation of restrictions, increase the difficulty of supervision of outbreaks, involve owners of affected animals in heavy losses, and lead to the disease becoming permanently established in this country." Of the other, it is stated: "The experience of the Ministry over many years has proved beyond question the wisdom of the '15-mile' area." It is, however, "now the practice of the Ministry to reduce the area to one of 5 miles in simple cases after the lapse of 14 days from the date of the outbreak instead of 21 days as formerly."

Tuberculosis in Cattle.—The report recapitulates briefly the action taken in the past to deal with bovine tuberculosis. The various Tuberculosis Orders are remarked on from the first Order of 1909 which, though approved of, never became operative owing to financial disagreement between the Treasury and local authorities regarding compensation, and the Tuberculosis Order of 1913, which was confined to cows suffering from tuberculosis of the udder and giving tuberculous milk, and bovine animals suffering from tuberculosis with emaciation, and the Tuberculosis Order of 1914, which was an extension of that of 1913 to include bovines suffering from a chronic cough and showing definite clinical symptoms of tuberculosis, and compensation on a single market value valuation instead of a dual system of three-fourths value if not advanced and one-fourth value if suffering from advanced tuberculosis. Owing to the war and the disorganisation of services which would be called on to administer it, the Order of 1914 was suspended, but in May, 1919, an undertaking was given in Parliament to revive it in association with the Milk and Dairies (Consolidation) Act, 1915 (England and Wales), and the Milk and Dairies (Scotland) Act, 1914, but owing to financial stringency matters were postponed in 1920. Further postponement was occasioned by the Milk and Dairies (Amendment) Act, 1922, and it was not until the 1st of September, 1925, that the Tuberculosis Order (Tuberculosis Order of 1925) became law. For the four last months of the year, 7,369 animals were declared affected and the total compensation paid by local authorities amounted to £31,294 8s. 7d., or £4 7s. 6d. per animal, 75 per cent. of which, according to arrangement, was to be repaid to local authorities by the Ministry. Professionally, it is interesting to note that 58·4 per cent. were emaciation cases, 28·3 per cent. had chronic cough with clinical symptoms, and 13·3 per cent. were milk and udder cases. Of those slaughtered, 70·4 per cent. were declared on *post-mortem* to be suffering from advanced tubercu-

losis, 27·7 per cent. not advanced, and 1·9 per cent. certified not affected. It is of further interest to note that disease was found on 6,374 premises by veterinary inspectors, and that the total number of animals examined by them amounted to 112,395.

Swine Fever.—During the year, 9,202 outbreaks were reported, of which, 1,643, or 18 per cent. were confirmed.

Sheep Scab.—Outbreaks to the number of 670 occurred in Great Britain during the year, Cornwall, the East Riding, North Riding and West Riding of Yorkshire showing the greatest number of cases. In certain counties the transactions of dealers were responsible for many of the outbreaks, and the operations of some dealers were untraceable, but it is thought that the new Movement of Animals (Records) Order of 1925 will materially defeat this. Much prominence is given in the report to proposals for a general compulsory double-dipping of all sheep in the country, with movement restrictions, limited to a short period of the year, *viz.*, from 15th July to 31st August, the remainder of the year being free from restrictions, such double-dipping to be performed with an interval of not less than seven and not more than fourteen days between the two dippings. This proposal is intended to replace existing local regulations which are represented as prejudicial to the sheep trade and inconsistent with the actual sheep scab situation of the country. The proposal will involve careful supervision of dipping, and local authorities are to be invited to consult agricultural bodies with regard to individuals who might be employed as temporary inspectors for the purpose.

Two hundred and eighty-eight dips were approved for use, of which 195 were non-poisonous and 93 were arsenical. A table of loss from double-dipping is given for Devonshire and North Wales, percentage mortality being ·08 and ·02 respectively. In practically every case death occurred after the second dipping and, where an arsenical dip was used, at both dippings. The question of imposing some restriction on the use of arsenical dips in sheep scab regulations is under consideration.

Anthrax.—Outbreaks of anthrax to the number of 699 were confirmed, Scotland heading the incidence with 368, followed by England with 295, and Wales 6. Of the animals affected, 748 were cattle, horses 7, sheep 7, pigs 10, asses 1, and dogs 1. Seventy-one outbreaks occurred on premises on which disease had existed during the five previous years and 53 outbreaks probably owed their origin to a previous visitation in the same year. Imported feeding stuffs and artificial manures are pointed to as being by far the most probable source of infection.

Glanders.—It is a triumph of administration and of sound executive civil service to record that only two notifications of glanders were received during the year. In the one, several small calcareous lesions were found in the lungs, and in the second there was a lesion of the septum nasi described as a congested area. In neither case was the causal organism revealed.

Parasitic Mange.—Outbreaks numbering 513 were reported during the year, the number of horses affected being 810. Statistics covering the past four years show that, though the reduction of horse population during that time had mounted to 9 per cent., the reduction of case incidence of mange was 74 per cent.

PART II.—IMPORTATION AND EXPORTATION.

Fat cattle for slaughter from abroad.—Fat cattle numbering 30,968 were imported, 15,371 coming from Canada, 15,362 from U.S.A., and 235 from South Africa. The total casualties amounted to a little less than 4 per 1,000; there were no casualties from those imported from South Africa.

Importation of Canadian Store Cattle.—Cattle to the number of 82,540 were imported from Canada as stores under the conditions laid down by the Importation of Animals Act, 1922. Of these, 18,713 were slaughtered at the ports of landing, 30,765 were licensed out of landing places for immediate slaughter, and 30,765 were moved to various places for feeding purposes. Casualties on shipment amounted to 1·4 per 1,000.

Animals from Ireland.—During the year, 780,692 cattle, 436,442 sheep and 58,246 pigs were brought from Ireland, much lower numbers than the previous year. Casualties were the lowest of any year since the war, being 6 per 10,000 cattle, 2 per 10,000 sheep, and 9 per 10,000 pigs.

Importation of Pedigree Animals Act, 1925.—Two applications were received during the year for an Order authorising the importation of pedigree stock, *viz.*, Friesian cattle from South Africa, and Corriedale sheep from New Zealand. To obviate delay experienced in these cases and to conduce to the smooth working of the Act, exporting Dominions are required to furnish statements that herd or flock books concerned are recognised by them, and certificates from secretaries of herd and flock books stating that the animals proposed to be imported have been duly registered therein. The Act gives effect to the promotion of inter-imperial trade in pedigree stock throughout the Empire on reciprocal terms.

Importation of Dogs.—Dogs numbering 749 were landed during the year, 648 of which underwent quarantine at the five generally-approved premises. Others were landed for re-export within 48 hours, and 18 under "performing dog" licenses.

Importation of Foreign Hay and Straw.—Owing to the serious position of foot-and-mouth disease on the Continent, the Ministry decided in November to discontinue indefinitely the issue of licences for the importation of hay and straw for manufacturing purposes (*i.e.*, saddlery, house thatching, straw rope making) from those countries to which the prohibition imposed by the Foreign Hay and Straw Orders applies.

Exportation of Horses.—During the year, 13,477 horses were shipped from Great Britain to the Continent; 2,510 were rejected for shipment; only 11 casualties, distributed over 11 voyages, occurred. Animals for France were shipped from Folkestone, those for Belgium chiefly from Harwich and Goole, those for Holland chiefly from London and Leith. A Departmental Committee under the chairmanship

of Major J. W. Hills was set up by the Minister to enquire into the conditions of this export trade, " and to advise whether, having regard to the necessity of ensuring that no avoidable suffering is inflicted on such horses, any further restrictions should be imposed on the trade." The final conclusion of the Committee with respect to the trade was in the following terms :— We desire to report that we are satisfied, from the evidence which we have received, that no horse which could be described as decrepit has been passed for export by the port inspectors since the re-organisation of the Ministry's arrangements in 1921, and that the provisions of the Acts of 1910 and 1914 are being efficiently carried out," which, in effect, is that animals have to be certified by a veterinary inspector of the Ministry as " fit to be conveyed and disembarked without cruelty and to be capable of being worked without suffering." Shipment of carcases of animals, however, is now greatly replacing the export of live horses, as may be gathered from statistics given in the report. In the year 1920 the approximate number of carcases shipped amounted to 15,972, and live horses, 58,689, whereas in 1925, the total number of carcases was 64,357 and live horses, 13,477.

In conclusion, if full information of proceedings is required, the report is obtainable at any of H.M. Stationery Offices, price three shillings net.—J.M.

REVIEW.

(**Diseases of Animals in Relation to Man**, by T. W. M. CAMERON, M.A., B.Sc., Ph.D., M.R.C.V.S., pp. 222, published by Faber and Gwyer. Price, 3s. 6d.)

This little book forms one of a series described as " The Modern Health Books," edited by Professor D. Fraser Harris, M.D., who says, in his preface to this volume, that they are " designed to bring within the reach of everyone the latest expert opinions on the chief problems of health."

Dr. Cameron's book certainly fulfils that intention within the scope of his subject : the lay student who desires to acquire knowledge of this aspect of human health, so far as it may be affected by animal diseases, can hardly fail to be informed and edified by the facts and the manner of their presentation in the work under review. Reference to the excellent little index shows the veterinarian that the ground is well covered, but, as might be expected in a work intended for popular information, the advanced veterinary student will not find much to interest him excepting the chapter on Animal Tuberculosis.

Dr. Cameron is to be congratulated on this chapter, especially where he discusses simply and briefly the question " whether immunity from the human disease may be conferred in childhood by the bovine bacillus."

The book is well printed and edited, and may be recommended confidently by any veterinary practitioner to a client who requires simple and reliable information in the form of what might be termed a handbook. As such, it is the best example with which the reviewer is acquainted, of a veterinary work designed for popular instruction.—J. W. R.

The Veterinary Record.

13th November, 1926.

VETERINARY SCIENCE AND POLICE.

No more difficult problem confronts a State than the control of animal disease. Economy, whether it is regarded as domestic, national, or imperial, is directly involved, and in a large measure the health of a community depends on the degree of freedom from disease in which those animals which furnish part of its food supply are maintained. On these two important issues of economy and health, the public is entitled to be informed how the country stands with regard to communicable animal disease and the methods which are pursued from time to time for the prevention and control of such disease. The publication of the Annual Report of Proceedings under the Diseases of Animals Acts for the year 1925, otherwise the Report of the Chief Veterinary Officer of the Ministry of Agriculture, will therefore be welcomed by veterinarians and laymen alike. Space will not admit of our reproducing the report in full, but we give in this week's issue as complete a summary of the salient points as possible.

We take the opportunity of congratulating the veterinary staff of the Ministry in their work well done, sympathising with them in the criticism to which public service is oft-time exposed, yet fully appreciating the strictness of the vigilance which is their portion in service, and which alone is the secret of their success. The true significance of vigilance and sound system is apt to be overlooked, or appraised at an under value, when no disease prevails, and to bring control under the strong, firm measures which communicable disease always necessitates, outbreaks may serve a useful purpose in perfecting control through scientific procedure. In reviewing the past, the veterinary service of our country has reason to be proud of its achievements, and it is certain that the public is not unmindful of completely successful service shown. We may instance the two indefinite cases of glanders in the report of 1925 compared to the common prevalence of forty years ago, the freedom of this country from the difficult and insidious disease epizootic lymphangitis prevalent on the Continent during the War, though our British troops were maintained free, the suppression of bovine contagious pleuro-pneumonia, the greatly reduced incidence of parasitic mange, and the entire absence of cattle plague, sheep pox and rabies. One can safely predict that the handling of the tuberculosis situation in animals by the veterinary profession will be reflected

in most marked reduction of the various phases of that disease in human beings, and it is reasonable to hope that in course of time scientific enquiry and research will lead to a more definite understanding with regard to foot-and-mouth disease, whereby vexation of spirit and criticism will be things of the past, and unquestionable economy acknowledged.

CLINICAL NOTE.

An Interesting Monstrosity.

By J. POLLOCK WALKER, M.R.C.V.S., Stonehouse.

Subject.—A half-bred Friesian cow, straining to calve. Had calved normally twice previous to this and was now at full term.

Presentation.—The head, surrounded by all four feet, was presenting.

Delivery.—The ease with which I managed to calve her surprised me as much as it did the owner, who had been "having a try." I roped the hind legs and moderate traction brought away the fœtus after the fore-end had been repelled into the uterus.

Foetus.—The true nature of the fœtus was only discovered when brought to the outside. The photo. should show the most important abnormalities. All the abdominal viscera were external and the apex of the heart was just visible. The pelvic limbs were rotated through half a revolution, so that the sacral tuberosities were in the same place as the sternum, while the tail protruded at the ischial arch. The monstrosity was the size of a normal calf, was not calved prematurely, and had six incisors definitely erupted. I judged that its uterine life had been normal in every way except for a sad misfortune in its very early days. As for its extra-uterine life—it had none. I was so pleased and amazed at delivery that I never thought of 'making it live,' although, on reflection, I am inclined to think I could have succeeded. I certainly had a unique opportunity of massaging the heart. Has a freak such as this ever lived in the outside world and, if so, for how long?

PRESENTATION TO CAPTAIN FRANK SOMERS.

On the occasion of the opening of the newly-acquired premises, house and offices of the National Master Farriers' Association, which took place on Friday, October 22nd, at Pendleton House, Spencer Place, Leeds, a dinner was given by the Chairman, Mr. McDiarmid, Glasgow, to the Committee and officials, and the opportunity was taken to present Captain Frank Somers, the Chief Veterinary Surgeon to the Association, with a handsome silver loving cup and rose bowl in recognition of his 21 years' service to the Association and for his professional assistance in cases at law all over Great Britain.

The PRESIDENT, Professor W. J. Anstey of Leeds and Oxford, after the loyal toasts had been proposed, rose and spoke in the highest terms of praise of the abilities of Captain Somers and said that as a professional witness in veterinary matters, and particularly in regard to jurisprudence, Mr. Somers was one of the best witnesses in the country. On behalf of the Association and its members he had very great pleasure in handing to him that mark of esteem and regard, as an appreciation of his worth at all times, and for his distinguished services.

Captain SOMERS, on rising, received a great ovation. He thanked the President for his kind references, and said the magnificent gift would serve to remind him of many happy days, many conflicts, and of many verdicts, in courts all over Great Britain. He had watched the progress of the Society from its very beginning when it started with fourteen members, and had now reached almost ten thousand. The success of the Association was due to the excellent work done by the officials and Committee, and although the early part had been an uphill struggle, the present conditions were highly satisfactory, and inspired all with boundless anticipations for its future.

R.A.V.C. Old Comrades' Dinner.

A "Record" Gathering.

It is a testimony both to the zeal with which the ideals of the Royal Army Veterinary Corps Old Comrades' Association are pursued and to the ability with which the officers conduct its affairs that the passage of time since its inauguration six years ago brings a steady increase in the numbers attending the Annual Dinner. The fact that the number attending this year's dinner, which was held at Anderton's Hotel, Fleet Street, London, on October 22nd, constituted a "record," is rendered the more striking by reason of the contrast between the spirit dominating current events and that which animates the Association.

The dinner itself has always been carefully preserved from degenerating from a convivial occasion into a function, and on the evening in question those charged with the duty of speaking to the toasts saw to it that the easy task of entertaining the company should devolve mainly upon the "Faugh-a-Ballagh" Orchestra, which positively revelled in meeting the challenge of the hilarious converse of 200 or so well-met friends.

Major F. T. G. Hobday, in inviting the company to drink the health of the guests, made reference to the service rendered to the Association by the veterinary press in bringing the good work of the Association to the notice of members of the corps and of the profession. It was through the press that they knew that the Association was being kept not only alive, but in a flourishing condition and that it was fulfilling the splendid objects for which it was founded. They had with them the inimitable Sergeant O'Reilly, whose representations on the menu cards at their dinners were absolutely unsurpassable. (Cheers.) That night they had from him "The Farrier's Dream." It was evident that Sergeant O'Reilly had not seen a horse lately (Laughter), but this representation was quite consistent with the prevalent idea that the horse was passing away. The cartoonist had made his name in the world of art: if they would watch the *Evening Standard* they would see, very frequently, a cartoon by Sergeant O'Reilly. (Hear, hear.) They could be proud of the fact that in the Association they had a cartoonist of such standing. (Cheers.)

They also had with them one who was, Major Hobday believed, the oldest member of the Corps—in age. He certainly was the most deceitful when he enlisted. (Laughter.) He referred to Mr. Fred Mansell. (Cheers.) Mr. Mansell, when he enlisted in the Veterinary Corps in 1917, put his age down as 54, forgetting that his son (who was also serving) was 46. At the present moment his age was 83. (Cheers). When he (Major Hobday) heard of him he wondered how he had deceived them, but when Mr. Mansell came to see him, a little time ago, he found that there was no cause for surprise, and when that gentleman stood up to reply to that toast, he was sure that all present would agree with him. It would interest them to know that thirty or forty years ago Mr. Mansell had achieved a great reputation as an engraver of show dogs.

Mr. F. Mansell, who was accorded an ovation on rising to respond, expressed his gratification at the welcome given him and said it was a grief to him not to have been present with them before, but circumstances rendered this impossible. Major Hobday had referred to the curious incident in his life which went by the name of false enlistment: his only regret was that the authorities did not send him to France. To be there that night and to be so mentioned by a very honoured friend and so greeted by the comrades of the Corps was a great honour and one which he would never forget. (Cheers.)

The President (Major-General Sir F. J. Blenkinsop), in submitting "The Association," said that all who were present at the Annual General Meeting would have heard how the Association stood. With all the strife in the industrial sphere which prevailed at the present time it was very difficult to get new members, but the Association was more than holding its own and, if they could be allowed to see when the present industrial conflict ceased (Laughter), he hoped they would get a greater influx of members. There was no doubt that they wanted peace in industry and, until they got that, Associations such as theirs would suffer. They had lost a certain number of members, and unfortunately they had a large number who had not paid their subscriptions: he hoped that these would come in better as matters improved. They had that night a "record" gathering, and as long as that happened he thought that they could congratulate themselves that the Association was at least popular. He had been told that the Old Comrades, whatever else they might lack, had got good voices: that was not a bad thing so long as they would make themselves heard, letting others know what a success those dinners were, so that they might secure even larger attendances in the future.

The dinner was preceded by the Annual Meeting, at which a considerable amount of business was carried through and the officers for the coming year were elected. Major-General Sir Layton Blenkinsop was re-elected as President, and the following gentlemen were elected as Vice-Presidents: Major-Generals H. T. Sawyer, Sir F. Smith, Sir John Moore, and E. R. C. Butler; Colonels W. Walters, F. W. Wilson, A. G. Todd, and A. E. Clarke; Majors Hobday and Dayer Smith. A further number of gentlemen were elected to serve on the Committee, whilst Mr. R. Corr, the indefatigable Secretary, and Capt. Warburton, the all-popular Treasurer, were unanimously asked to retain their posts. The question of the annual subscription was again discussed, and it was decided that the amount should remain at half a crown *per annum*, and that all members who had paid up to date should be allowed a shilling off the cost of the dinner ticket when attending the annual reunion.

The "Trojan Bull" Case.

INTERESTING PROFESSIONAL EVIDENCE.

We are indebted to a correspondent for supplying us with a copy of the major portion of the official record of the evidence given in the recent arbitration in the Scottish Courts between William Cassels Jack, *claimant*, and the Eagle Star and British Dominions Insurance Company, Ltd., *respondents*, which aroused such a degree of interest as to become popularly known as the "Trojan Bull" Case. This case was cited in the *Record* of September 25th by Mr. F. T. Harvey, in his clinical contribution "Wire from the Stomach."

We believe that it will make for clarity if we preface the reproduction of the main features of the professional evidence given in the case with the final findings, which are as follows:—

THE FINDINGS.

EDINBURGH: 30*th July*, 1926. THE ARBITER having considered the Record, Proof and Productions, and the Representations lodged for the Respondents on 27th July, 1926, finds: (1) That in or about January, 1921, the Claimant purchased by private bargain the Friesian bull known as "Terling Trojan" for the sum of £2,835; (2) that the said bull was bred of pure imported Friesian parents and was three years old at the date of purchase, having been born on 14th December, 1917; (3) that shortly after purchasing the said bull the Claimant insured it with the respondents for the sum of £3,000; (4) that the said Insurance was renewed from year to year until the beginning of 1924, when after certain correspondence between the parties as to the value of the animal a new Policy of Insurance (No. 8 of process) dated 3rd March, 1924, for the sum of £2,500 was issued by the Respondents to the Claimant; (5) that in terms of the said Policy the Respondents contracted, subject to the conditions therein mentioned, to pay to the Claimant the market value of the said bull, not exceeding the sum insured, in the event of the animal dying during the currency of the Policy as the result of accident or disease contracted within the said period; (6) that the conditions contained in the said Policy included the following: "(2) The insured must insure with the Company all insurable animals of a similar class belonging to him unless otherwise agreed by the Company by endorsement hereon . . . (12) This policy does not cover death resulting from improper use, overloading, unskilful treatment, wilful neglect, malicious injuries or poisoning"; (7) that the said bull became ill in April, 1924, and in June, 1924, was operated upon for an external abscess on the abdomen at a point immediately below the rumen; (8) that the bull thereafter recovered, and was fit for service from the middle of September, 1924, until 22nd January, 1925; (9) that towards the end of January, 1925, the bull again became ill and that it died on 13th February, 1925; (10) that a *post-mortem* examination revealed that the cause of death was septic peritonitis and septicæmia due to a piece of thick iron wire 21½ inches long or thereby, which had been swallowed by the bull, and which was found in the rumen; (11) that during the currency of the said Policy the Claimant owned another bull known as "Loyal Cæsar"; (12) that "Loyal Cæsar" was not bred of pure imported parents, that he was born on 31st July, 1921, and that his value at the date of issue of the Policy No. 8 of process did not exceed £50; (13) that the said Policy contains no specification of classes of cattle or any definition of an insurable animal; (14) that on a sound construction of Condition 2 of the Policy there was no absolute duty upon the Claimant to insure any other animal as a condition of insuring "Terling Trojan," but that he had a duty to disclose to the Respondents any animals of a similar class which he possessed, and to insure such animals with the Respondents if so required by them; (15) that he disclosed to the Respondents in the Proposal Form No. 18 of process the fact that he possessed one other bull, but stated that "Terling Trojan" was his only stock bull, and that he also informed Mr. Peter Wilson, M.R.C.V.S., on behalf of the Respondents, that he owned another young bull; (16) that the Respondents made no further enquiry about the other bull, and did not require the Claimant to offer it to them for insurance; (17) that the statement that "Terling Trojan" was his only stock bull was made in good faith, and was true in fact; (18) that "Loyal Cæsar" was not an animal of a similar class to "Terling Trojan" in respect that he was not bred of pure imported parents; (19) That it is not proved that the death of "Terling Trojan" resulted from malicious injury or from wilful neglect; (20) that accordingly it is not proved that the Claimant is in breach of the Conditions of the said Policy; (21) that "Terling Trojan" died "as the result of disease contracted within the period of the currency of the said Policy; (22 that the Respondents are accordingly liable under the Policy to pay to the Claimant the market value of 'Terling Trojan' at the date of its death; (23) that the market value of 'Terling Trojan' at said date was £1,400; Therefore decerns the Respondents to make payment to the Claimant of the sum of £1,400, with interest at the rate of five per cent. per annum from 9th April, 1925, until payment, together with the expenses of process."

(Signed) JOHN L. WARK.

NOTE.—Four main questions arise upon the contentions of parties and the evidence.

The first is whether the Claimant is in breach of Condition 2 of the Policy. That Condition must be read *contra proferentem* and cannot exclude liability from the Respondents unless it clearly imposes upon the Claimant a duty which he has failed to perform. I do not think that the Condition can be given effect to according to its literal terms. For one thing the Claimant cannot insure. It is the Respondents alone who can do so. Further, only the Respondents can determine whether an animal is an insurable animal. The utmost duty which the Condition lays upon the Claimant, in my opinion, is to disclose to the Respondents the existence of other animals "of a similar class" in order that the Respondents may determine whether they will require these also to be insured with them. The term "similar class" is not defined and there appears to me to be considerable room for difference of opinion as to whether a valuable animal of pure imported blood specially purchased for the improvement of a herd is an animal of similar class to one not of pure imported blood, and of a value which is trifling in comparison with the other. In my opinion "Terling Trojan" and "Loyal Cæsar" were not in any reasonable or popular sense animals of a similar class. But even if I am wrong in so thinking it appears to me to be abundantly clear that the Claimant was reasonably entitled to believe, and I accept his evidence that he did believe, that the two animals were not of a similar class; and in the absence of any definition of that term in the Policy I consider that he was entitled to act on that belief without thereby incurring a breach of the Condition. But further, it is in my opinion proved that the Claimant fairlyand honestly disclosed both directly to the Respondents and indirectly through Mr. Wilson that he did possess another bull, and that his statement in the proposal form that "Terling Trojan" was his only stock bull was an honest and a true statement. The fact that "Loyal Cæsar" was used for the incidental purposes of keeping certain cows in milk and mating with the progeny of "Terling Trojan" does not in my view justify the Respondents' contention that the Claimant's statement in the proposal form was untrue. The further fact that "Loyal Cæsar" was afterwards used to some extent as a substitute for "Terling Trojan" during his illness is, in my opinion, irrelevant to the question of the truth and honesty of the statement in the proposal form, which must be judged of as at the time it was made. The Respondents made no enquiry as to the second bull stated by the Claimant to belong to him, and did not require him to insure it as a

condition of the insurance of "Terling Trojan." In these circumstances I am unable to hold that the Claimant's right to recover under the policy is barred by a breach of Condition 2.

The second question is whether the swallowing of the wire which ultimately caused the death of "Terling Trojan" was accidental or was due to malicious injury. On this part of the case the *onus* lies upon the Respondents, and in my opinion it is a very heavy onus, which could only be discharged by very clear and convincing evidence. This *onus* is all the heavier when it is remembered that it is an admitted fact that cattle have a propensity for swallowing foreign objects and especially metal objects. The wire in this case is of a size considerably larger than anything previously recorded as having been found in the stomach of a bovine animal. The Respondents rely upon that fact and upon the evidence of experts who say that it was impossible that the bull should have swallowed so large an object unassisted. I have considered and weighed most anxiously the evidence of Mr. Munro, Mr. Wilson, and Professor Greig on the one hand, and of Mr. Stevens, Mr. Baxter, and Professor MacQueen on the other hand, and I find it more difficult to believe in the possibility of the wire having been forced or guided down the animal's throat than in the possibility of its having accidentally swallowed it with its food. I am unable to hold that there is any such preponderance of probability or of opinion in favour of the former view as to enable me to say that the bull could not have swallowed the wire unaided, and I therefore am compelled to hold that the Respondents have failed to discharge the *onus* upon them of establishing malicious injury.

The third question is whether the death of "Terling Trojan" was due to wilful neglect on the part of the Claimant or of his servants in charge of the bull. On this question also my verdict is against the Respondents. There is an entire absence of evidence of any negligence in the manner of feeding the bull. The usual practice was followed in supplying it with hay, and it is not said by anyone that each bundle of hay should have been teased out or sifted before it was put in the stall. On this branch of the case as on the question of malicious injury the Respondents maintain that *res ipsa loquitur*. In my opinion that doctrine is insufficient in the circumstances to establish a breach of Condition 12 of the Policy which is directed to wilful neglect. This is a term which, in my view, is not equivalent to mere carelessness, but involves a course of conduct amounting to gross and deliberate negligence.

I have, therefore reached the conclusion that the Claimant is entitled to recover under the Policy.

On the remaining question of the amount, I am unable to hold that the sum of £2,500 was an agreed sum or that the Respondents are excluded by their pleadings from showing depreciation in the value of the bull except during the currency of the Policy No. 8 of process. In my view the £2,500 was a compromise figure, and while the correspondence which passed at the time cannot be entirely left out of account in fixing the value of the animal as at the date of its death, I do not consider that as a result of these negotiations the enquiry as to value can be in any way restricted. There was a great deal of evidence directed towards the question of whether the illness of the bull in 1924 was due to the presence of the wire in its stomch then. I have not thought it necessary to discuss this question, as to which the opinions of the experts are very conflicting, for I think that the evidence shows that the animal recovered from that illness and was fit for service for several months thereafter, and there is in my opinion nothing to show that if the illness was unconnected with the wire the value of the bull was materially affected thereby. Taking into account the general fall in the value of Friesian cattle and the increased age of the bull, and having regard to the values obtained for its progeny, I have arrived at the conclusion that the market value at the time of death may fairly be fixed at £1,400.

(Initialled) "J. L. W."

The following are selected questions and answers in the course of the cross-examination of witnesses at the enquiry :

MR. WILSON'S EVIDENCE FOR THE CLAIMANT.

Mr. PETER WILSON, M.R.C.V.S. (*examined by Mr. King Murray*). Q.—Do you know Mr. Jack, the Claimant in this case, and have you been acting as his veterinary surgeon for some years ? A.—Yes. Q.—Did you know the bull called Terling Trojan which stood on his farm for a number of years ? A.—Yes. Q.—Do you know the bull Loyal Cæsar also, which is still there ? A.—Yes. Q.—Do you remember when Mr. Jack purchased Terling Trojan ? A.—Yes. Q.—I think that was early in 1921 ? A.—That is so. Q.—Have you been asked from time to time, on three separate occasions, I think, to make reports to the Insurance Company, the Respondents here, with regard to Terling Trojan ? A.—Yes. Q.—Did you produce three reports which you made to the Insurance Company with regard to that animal, the first of which is dated 12th December, 1922, the second December, 1923, and the last one 22nd February, 1924 ? A.—I examined it twice for the Insurance Company last year, two or three months between the two reports. Q.—These are the reports, 14th December, 1923, and 22nd February, 1924 ? A.—Yes, that is so. Q.—I see that on each occasion you gave the bull a good certificate of health ? A.—Yes, except one certificate, when I sent a letter intimating that the bull had suffered from a slight attack of indigestion for two or three days. Q.—Apart from that you never had occasion up till the year 1924 to attend the bull for any illness ? A.—Never. Q.—I see that in these reports you answer a number of questions put to you by the Company, and among others query 8—"Does the proposer own any other animals than those described and if so give particulars." I see that in December, 1922, you answered : "This is the only stock bull" ? A.—That is so. Q.—Was that a correct answer according to your knowledge of the situation ? A.—Yes. Q.—He had another bull at that time ? A.—In 1922 ? Q.—Yes ? A.—I expect he had from the nature of the reply—that it was the only stock bull—I expect he had another bull at that time. Q.—As a matter of fact you know he had Loyal Cæsar at that time ? A.—I would know, but I have really forgotten now. This was away back in 1922. Q.—You are not charging your memory with the presence of another bull other than Terling Trojan ? A.—No. Q.—You knew the whole of his stock in a general way ? A.—Yes, he would have a lot of young bulls at times about the place. Q.—In the last report, in the answer to the corresponding question, you said he had one young bull ? A.—That is so. Q.—In regard to the one young bull, was that Loyal Cæsar you were referring to ? A.—It would be Loyal Cæsar. Q.—I take it these are true reports you made to the Insurance Company ? A.—Yes, they are true reports to the best of my knowledge and belief. Q.—You knew this was a pure imported animal ? A.—Yes. I did not actully know personally, but I was assured that it was a pure imported bull. Q.—And it was a very good specimen so far as you knew ? A.—Yes, so far as I know anything about the breed. Q.—Did you have any occasion to know whether it was a satisfactory performer in the matter of his services ? A.—Yes, it was assured to be. Q.—You remember that his animal fell ill in the month of April, 1924 ? A.—Yes. Q.—What was the nature of the trouble so far as you could find at the time ? A.—It was rather a diffused swelling on the under surface of the abdomen, between the point of the sheath and the scrotum, rather a painful diffused swelling. Q.—Was the cause of that known to you at the time? A.—We could not ascertain any cause that was likely to produce it. After a thorough examination of everything I could not come to any definite conclusion as to the actual cause of the swelling. Q.—Did you give it general treatment ? A.—Yes, at first. Q.—And did the swelling in time become circumscribed and reduced in size ? A.—Yes, a great deal. The inflammation departed and the swelling disappeared to a great extent. In fact, it nearly disappeared altogether.

Q.—I suppose the bull would not be used for service purposes during this illness? A.—Not during the acute stage. Q.—I think for a time after you had treated it the swelling remained about the size of a small cocoanut? A.—That is so. Q.—And did it afterwards increase to such an extent that another expert was called in? A.—Yes.

By the Arbiter. Q.—As a result of your treatment the swelling nearly disappeared. When did it occur again? A.—It would be about two months after the first. Q.—That would bring us on to about June? A.—Yes.

(Examination continued). Q.—When it began to increase again was the animal examined by Professor Robb? A.—Yes. Q.—Who employed Professor Robb? A.—The Insurance Company, I think. Q.—Was the animal also examined about the same time by Mr. Baxter, of London? A.—Yes. Q.—Also on behalf of the Insurance Company? A.—Yes. Q.—As a result of consultation with this gentleman was an operation decided upon? A.—Yes. Q.—Was that operation carried out in the month of June? A.—Yes. Q.—What experts were present at the operation? A.—Professor Robb of Glasgow, and myself. Q.—Mr. Baxter was not there? A.—No, Mr. Baxter was not present at the operation.

By the Arbiter. Q.—Did Professor Robb operate? A.—Yes.

(Examination continued). Q.—What did you find at the operation? A.—The first part of the operation consisted in introducing a trochar and canula. When we introduced this instrument gas came out. That was the first thing. Q.—Did you find an abscess? A.—Yes, a septic decomposing abscess. Q.—Was the abscess separated from the abdominal cavity? A.—Yes. Q.—By what? A.—In some places the wall of the abscess was rather thick, and in some places it was rather thin. It was just a very thin layer of tissue. Q.—Did you find any rupture? A.—There was no rupture. Q.—I suppose rupture was looked upon as a possible cause? A.—Yes, it was one of the possible causes. Q.—But you definitely excluded rupture at the operation? A.—Yes. Q.—Was there any other possible explanation of this swelling? A.—There were three things that the swelling might have been. It might have been hæmatoma. Q.—What is that? A.—It is really a blood tumour due to rupture of a blood vessel and the extravasation of blood. Q.—Was that excluded as the result of the operation? A.—Yes. Q.—And rupture, you have told us, was excluded? A.—Yes. Q.—But the abscess was found. A.—Yes. It might have been rupture, hæmatoma, abscess or swelling. In point of fact, the operation definitely proved that it was abscess. Q.—I suppose it would take some little time for the wounds caused by the operation to heal? A.—Yes, we made pretty big wounds, two of them, to be certain that they would not close too quickly. Q.—Did you clean out the abscess? A.—It was cleaned out when the bull was cast; before it was allowed up it was thoroughly cleaned out. Q.—I suppose the result of the cleaning out of the abscess would be to reduce the swelling which had been there? A.—Yes, the swelling collapsed as soon as the contents were evacuated. Q.—Did the abscess reform in the course of time? A.—Yes, it did. Q.—Did it ultimately burst, of its own accord this time? A.—Yes. Q.—When did this happen? A.—It was some time after the operation. Q.—Weeks or months? A.—It would be several weeks, because the wound was healed. Q.—Did you attend frequently yourself upon the animal during this period. A.—Very frequently; according to the condition of the animal. Q.—Did it ultimately recover or did it not ultimately recover to such an extent as to be able to be used for service purposes? A.—It did recover sufficiently to be used for service purposes. Q.—Would it be about the autumn of the year in question that the bull recovered sufficiently to be used for service purposes? A.—Yes, it would be in the autumn. Q.—Can you tell us when any other alarming symptoms showed themselves after the autumn of 1924? A.—It was in the spring of 1925 some time that he began to show serious symptoms. Q.—I am entitled, I think, to refresh your memory with the date when the animal died. The animal died in February, 1925. Did you have occasion to attend the animal for some weeks or months before it actually died? A.—I had. Q.—What was wrong with it? A.—It was evidently bad with peritonitis before it died. Q.—What about the symptoms? A.—It was showing fever and want of appetite and rapid loss of condition, and it began to look very ill and dejected and suffered from diarrhœa occasionally. Q.—I suppose for a few weeks before its death it would not be in a condition to be used? A.—It was not in a condition to be used for service for some weeks before it died; for a week or two any way before it died it was no use for service. I sent reports to the Insurance Company at intervals in regard to the condition of the bull. Q.—Would you say there was continuity of illness between April, 1924, and the date of the bull's death? A.—Yes, I should say there was. Q.—Did the second abscess that you have told us about form at or near the same point as the first? A.—Just at the same point as the first, practically in the same position. Q.—I would like you to tell me what position the abscess was in in relation to the stomach of the animal? A.—It was lying immediately below the first stomach of the animal; the first stomach would be lying on the top of it. Q.—The first stomach of a bull is a large cavity? A.—It is a large cavity, and it occupies practically the entire left side of the abdominal cavity or belly. It occupies practically half of the abdominal cavity. Q.—In the case of a bull of the size of this Terling Trojan what would be the length of its stomach? A.—It would be well on for three feet. Q.—And its other dimensions? A.—It would be about three feet long, the most of three feet deep, and it might be eighteen inches across. Q.—And is the position of the abscess in the neighbourhood of the sheath, between the sheath and the scrotum? A.—Yes. Q.—Just immediately below perhaps the centre of the stomach? A.—Immediately below the stomach on the centre of the belly. Sometimes the swelling one would think was a little more to one side than the other, but we attribute that to the bull lying. If a bull or a cow lies on one side it inclines to force the swelling to the opposite side where there is no pressure.

By the Arbiter. Q.—Do you say the swelling was just about the centre of the belly? A.—Yes, taking it vertically, but taking it longwise it was behind the centre.

(Examination continued). Q.—Does the stomach extend over both sides of the rear part of the abdominal cavity? A.—It is on the left side. It occupies the left half of the abdominal cavity, practically the entire left half of the abdominal cavity is filled by the first stomach. You get a bit of the liver in front of it, and you have the spleen occupying a small part, and then you have one of the kidneys occupying a small part, but practically the whole of the left part of the abdominal cavity in any bovine animal is occupied by the first stomach. There is a small part, or second stomach, in front of it, but these are small things compared with the entire bulk of the cavity. Q.—When you say practically the left side, does the first stomach of the bull to any extent overlap towards the right of the animal? A.—It depends on the amount of food that is in it. If it is very full I have no doubt it extends into the right side a little, but if it has collapsed it inclines to go more to the left side. The exact extent of the first stomach depends on the amount of distension with food. When it is empty it gets smaller and occupies a smaller place. Q.—Were you present at the *post-mortem* examination of the animal which took place at Mr. Mason's slaughterhouse at Omoa? A.—Yes. Q.—Who else was present besides yourself? A.—Professor Robb, of Glasgow, and Mr. Baxter, of London. Q.—That is to say there were three veterinary surgeons present? A.—Yes. Q.—What did the *post-mortem* examination disclose? A.—The *post-mortem* examination disclosed that where the abscess had been there was a considerable amount of inflammatory thickening, the result of inflammation from the abscess, on the external part of the abdominal wall. On the inside of the abdominal cavity there was an acute generalised septic peritonitis with the presence of a soft abscess, and a wire was found protruding

from the first stomach. Q.—Were there what are called adhesions. A.—Yes, there were adhesions, the result of the peritonitis. Q.—Who performed the operation? A.—Professor Robb. Q.—Were there abscesses found in the substance of the liver? A.—Yes. Q.—And was the stomach adherent to the liver? A.—Yes. Q.—At what point? A.—It was adherent to the liver over the seat of the abscess, where the peritonitis was, too. You get adhesions wherever you get peritonitis. Q.—Was the stomach wall much thickened at one point? A.—Yes. Q.—At what particular point was it that it was thickened? A.—Where the wire was penetrating. Q.—Was the wire which has been produced here found in the first stomach of the bull? A.—It was a wire something like that. I expect that would be the wire, but it is more curved than it was when it was extracted from the bull. Q.—Tell me precisely where this wire was found? A.—It was found protruding from the wall of the first stomach, at the floor of the abdomen, or lower part of the abdomen. Q.—Was that near, or was it not near, the place where the abscess had formed upon which you had operated before? A.—It was quite near it. Q.—You say you found it protruding from there. I presume that was only part of it that was protruding? A.—Yes, only part of it. Q.—Where was the rest? A.—It would be in the first stomach; the knacker pulled it out. His knife touched the wire, and he caught the end of it that was protruding from the stomach and pulled the rest of it out. Q.—Did the presence of that wire explain anything that had been obscure before? A.—It explained the whole course of the bull's trouble, so far as I could see. I never had the slightest doubt afterwards as to the cause of the whole trouble of the bull. Q.—I think the cause of death was certified, and it is not in doubt, to be septic peritonitis and septicæmia, due to the penetration of the wire into the second stomach? A.—That is so. Q.—What do you say as to the possibility of this wire being introduced into the bull's stomach purposely by some person? A.—It was an impossibility. Q.—In your opinion was it possible for any one to force this bull to swallow that piece of wire? A.—It is impossible. Q.—On the other hand, has your experience been, and do you know from your reading, that animals like this bull are in the habit of swallowing anything and everything that comes in their way? A.—Yes, that is common knowledge, that animals of the bovine species swallow all sorts of things. Q.—I suppose one would admit that this piece of wire is perhaps of unusual length to find in the inside of an animal? A.—Yes, that is certainly admitted. Q.—Have you heard of other cases of a piece of wire of a corresponding length at any rate being found inside such animals? A.—Yes I have heard of them. It is the commonest thing to find all sorts of things, such as pieces of wire, iron and steel, and money. You find anything and everything in a bull's or a cow's stomach. Q.—I suppose you know the book called *Veterinary Pathology* by Friedberger and Frohner? A.—Yes. Q.—I refer you to the new edition, page 108. This is a standard work? A.—Yes, a recognised standard work. Q.—I show you on page 108 of that book a passage where the authors say: "Foreign bodies are found very frequently in the stomachs of ruminants, especially in cows, and without any previous manifestation of the disease. A carving knife is said to have remained three months in the stomach of a beast without causing any injury. In other cases foreign bodies produce more or less grave lesions in the reticulum and adjoining organs, particularly in the diaphragm. The intensity of the effect depends above all things on the external condition of these bodies. The following is an appropriate classification:—blunt bodies as, for instance, stones; (2) pointed bodies, which, like nails that have a head, penetrate the wall of the stomach and remain fixed in it; and (3) pointed bodies which pass completely through the wall of the stomach, as, for example, needles and pieces of wire," and at the foot of the page he says that it is more frequent in stalls than in the pasture, etc. In dealing with the conditions to which such foreign bodies give rise when swallowed by the animal, at the foot of page 109 the author says: "The pointed foreign bodies which do not pass through the wall of the stomach are usually nails with a head, pins, hairpins, and bent pieces of wire," and then further on he says: "Besides the above described lesions of the reticulum and diaphragm we may observe the following changes according to the direction the foreign body has taken: extensive peritonitis, abscess of the liver, spleen and lungs, adhesions of the reticulum to the liver, abscesses in the thoracic and abdominal walls, lobular pneumonia, adhesions of the lungs to the diaphragm, pleuritis." Is the reticulum another name for the second stomach? A.—Yes. Q.—These are samples of what may result from the presence of such foreign bodies in the stomach? A.—Yes. Q.—Is that in accordance with your experience? A.—Quite. Q.—What you found as the result of the *post-mortem* examination was, I take it, what you would expect would be the natural result of the presence of this piece of wire in the animal's stomach. A.—Yes. Q.—Were there, in fact, other things like nails found in this bull's stomach? A.—Yes, there were several other pieces of metal found in the stomach. Q.—You were present when they were taken out? A.—Yes. Q.—Is it at all surprising in your opinion that you did not discover this wire when you operated on the bull in June, 1924? A.—There is nothing surprising in the fact that the wire was not discovered when the end of the wire was not in the abscess cavity. Both Professor Robb and I examined minutely the whole of the interior of the abscess cavity lest there might be the presence of some foreign body in it. We examined it minutely to be sure there was no foreign body present and we found none.

By the Arbiter. Q.—You did not find any sign of peritonitis in June? A.—Of course, we had the abdominal wall between the peritoneum and the abscess cavity. Q.—You did not penetrate the abdominal wall? A.—No, that would have been dangerous.

(Examination continued). Q.—Did you, so far as you could, see any symptoms which indicated to you the presence of peritonitis in the animal? A.—Not at the operation in June. Q.—If the wire had been penetrating the stomach at that time would you have expected peritonitis to follow very soon? A.—Yes, but there is this to be said, that it is a peculiarity of the bovine peritoneum that it is extremely resistant to infection, and infection can produce a very localised peritonitis which remains localised for a long time. Q.—Is the result of that that you may have peritonitis in a bovine animal lasting for a much longer period than in another animal? A.—Yes, and that is due to the native resistance of the bovine peritoneum. It can resist for a long time and show no symptoms. Q.—Was there any other cause that has has ever suggested itself to you of the abscess which you operated on in June, any cause other than the presence of this piece of wire? A.—I never could convince myself that there was any other cause for the whole of the bull's trouble other than the wire which we found at the *post-mortem*. I have given the matter my consideration because it was a peculiar and unusual case, and I never could find any other obvious or likely cause for the trouble. Q.—And this wire, assuming it to have been there in April, was, in your opinion, the obvious and likely cause of what you found in June, 1924? A.—That is my opinion.

At the time when you were dealing with the swelling in April, 1924, did you suspect that what you were treating the bull for was being caused by a foreign substance inside the bull? No, I did not suspect anything of the kind.

Was there nothing in what you saw to lead you to suspect that that was the cause of the abscess? The cause of the abscess was entirely obscure. We could find nothing obvious or likely to cause it.

Did it occur to you that the abscess or swelling might have been caused by some external injury? Yes, that was thoroughly considered, and the surface of the swelling was thoroughly explored to see if we could possibly find anything that was likely to be caused by an external injury.

Could not that abscess when you first saw it quite well have been caused by an injury to the bull during or subsequent to the serving of a cow? No.

By the Arbiter. Did you find any sign of external injury? No. There was never any sign of external injury, and the nature of the bull's actions when serving a cow would entirely eliminate any likely cause to produce a swelling of the nature of this swelling. I have seen a bull with swellings which were the result of serving a cow, but it was injury to the penis that caused the swelling.

(Cross-examination continued). Could that abscess have been caused by a blow or a knock? No, I do not think so.

Is it your evidence that that abscess could not have been caused traumatically? No, it is not, but there never was any evidence of any traumatism to be found.

Isn't it the case that in your experience you have found that abscesses have frequently been caused traumatically without your being able to detect any sign of external injury? No. My experience is that if you get an abscess as the result of a traumatism you will almost invariably find something to indicate that there was injury there.

Couldn't it be caused by a strain? Strains do not cause abscesses.

Never? Not in my experience.

Could it be caused by a fall against a hard substance? Not unless infection had been rubbed in or around. You do not get an abscess without infection. A bruise won't produce an abscess unless there is infection introduced.

Isn't it perfectly possible that infection might enter by an opening which you would not detect, an opening too small to detect? Certainly. That happens quite often. A prick from a thorn will produce an abscess and you will never see the prick.

So you can have an abscess produced from the exterior without being able to detect any exterior injury? Certainly.

Was this not of the nature of a recurring abscess? Well, it did recur; there was a second swelling which proved to be an abscess formed over the site of the first swelling.

The bull became fit for service purposes again after the operation? Yes, after Professor Robb operated.

In June, 1924, and for a considerable time, according to the evidence, it was not used for the purpose of serving cows? Yes.

Accordingly, if that piece of wire had been in its body, and had been the cause of the abscess which was operated for in June, 1924, it would have been present in the stomach all along? Yes.

The bull was serving for many months after the operation? Yes.

I want you to tell me something about the operation itself. Were you quite familiar with the facts of the operation and everything that was disclosed? Yes, I was present during the while operation. I assisted Professor Robb with the operation, and I administered the chloroform to the bull and cast the bull.

Did Professor Robb and you think it was likely before the operation that there was rupture, and that the abscess had been caused by that? Professor Robb and I considered before we operated, and we had definitely reduced the trouble to the three things, namely, hæmatoma, abscess, or rupture. The reason we introduced the trochar and canula was as far as possible to exclude the presence of rupture in case that, if we did introduce the knife to begin with, and there was a rupture present, we might penetrate the stomach and so cause the death of the bull because there would have been nothing for it but to shoot it if we had cut open the stomach or belly.

And accordingly you inserted the trochar and canula for exploratory purposes? That is so.

As a result of the fluid you say you obtained did you make up your mind that this was an abscess and not due to rupture? Yes, definitely.

And indeed it transpired that it was not due to rupture? That is so.

After the abscess was opened was an examination made of the inside by hand? A very minute examination was made by hand both by Professor Robb and myself.

I think no sign of perforation was found in the abdominal wall? That is so.

The abdominal wall was quite intact? Yes, it appeared to be quite intact.

So that accordingly that abscess had not been caused by anything perforating the abdominal wall? I do not go as far as to say that. It is possible the abdominal wall may have been perforated and produced the abscess and the instrument or body which produced the perforation have disappeared.

If there had been an opening into the stomach from such an abscess, wouldn't you have expected death to supervene very promptly? No. It is quite a common operation to penetrate a bovine animal's stomach. It is a well-recognised operation, and we do not expect them to die after it.

Do you suggest that if the abscess cavity had been penetrated by the piece of wire found in the bull's stomach that that might have been withdrawn, leaving no traces which you could detect by manual examination? Certainly I do. That could have been drawn back into the abdominal cavity and left no trace to anyone that could be felt with the point of the finger.

Do you suggest then that this wire had been the initial cause of the abscess? I am thoroughly convinced that it was.

Is it your view that that wire had remained in the bull's stomach from at least April, 1924 onwards? Yes.

And during the whole of that time must the wire necessarily had been in the first stomach of the bull? Yes, certainly.

Is it also your view that at some time or other that wire had perforated the abdominal cavity and then returned? Yes.

That is your view? That is my view. I am thoroughly convinced that that is the only explanation.

Of course there is another reason that you could get an abscess forming there without penetration of the abdomen by the wire. After the wire penetrated the stomach it protruded through the stomach, set up septic peritonitis, and you might get a certain amount of septicæmia as the result of that, absorption of micro-organisms into the blood with the result that any bruise which would produce an effusion and extravasation of blood at any part of the body would introduce these organisms into the blood and set up inflammation there which would ultimately produce an abscess.

Was not the perforation that caused the death an even less perforation than the one you have suggested might have caused this abscess? No. I do not think so, because the wire when it penetrated to produce the inflammation which would ultimately cause death, did not retreat into the stomach. The end of the wire was penetrating through the stomach.

I put it to you that at the *post-mortem* the whole abscess formation was cut away? It was reflected back.

Was the abdomen wall not then examined? Yes.

And was it not found to be intact? It was found to be intact, but it was quite impossible to be certain whether it had been penetrated at any previous time or not due to the amount of new inflammatory tissue that had been formed as a result of the presence of the abscess, and the operation.

Had there been any penetration at all would you have expected it to thicken the abdominal wall? I would expect the thickening to be entirely obscured by the inflammatory tissue that was formed round about it.

Did you also find at the *post-mortem* that there were abscesses on the left kidney and the liver and the wall of the first stomach? Yes.

Was it not obvious that the abscesses which you found on the liver, kidney and stomach wall were very recently caused? From their size they had been in existence for some time, they were big abscesses.

Can you not say whether they would be weeks old or months old? I do not believe they would be months old; otherwise they would have been inspissated.

I am told that from the appearance of these abscesses they could not have been older than about five days? I do not know how long it takes an abscess to mature in an animal's abdomen, because I have never had an opportunity of watching them, but from the size of these abscesses and reasoning from the analogy of the length of time it takes an abscesses to develop externally I should say they were older than five days, but I am not going to put a fixed date on the age of those abscesses.

Did you try at the close of the *post-mortem* examination to push the piece of iron through the original position? I did not.

Were you unable to do so? I never tried to push the wire through it. The hole was quite evident and could be seen.

Was not the peritonitis due to the puncture of the stomach wall and the contents of the stomach getting into the abdominal cavity? The peritonitis was due to the puncture of the stomach wall with an infected piece of wire, but there was no escape of the contents of the stomach into the peritoneal cavity.

Why do you say that? Because there was none of the contents of the stomach to be found in the peritoneal cavity. The contents of the rumen are coarse grass and coarse fodder and coarse hay cut into pieces anything from half an inch to three inches long and if they had escaped from the stomach they would be quite visible.

By the Arbiter. Do I understand your view to be that once the wire went through the wall of the stomach it would not matter very much whether the contents followed it or not? That is so.

You may have sufficient infection to cause the peritonitis which you discovered at the *post-mortem*? Yes, through the infection carried on the wire without any of the contents. Whatever infection was in the stomach, the wire was carrying it as well as the contents. . . .

(Cross-examination continued). Don't you agree that the figures (given) as to the number of calves sired by the bull require some explanation on the footing that this bull was a prolific sire? They require some explanation, but the explanation is quite obvious. Mr. Jack had contagious abortion in his stock.

I suggest to you that the real explanation for the comparatively small number of calves served by this bull is this, that the bull was getting older and was long past his best? I do not agree. I know definitely that Mr. Jack had contagious abortion very badly among his stock, and that is quite a sufficient explanation. . . .

My suggestion generally is that that iron must have been swallowed by the bull at a time very shortly prior to his death and the illness that caused his death? The wire must have been present in the bull for days, weeks or months.

Isn't it the case that the first stomach in which that iron must have been all the time it was in the bull is in continual movement? Yes.

Can you conceive how that wire could have remained in that stomach for so many months without causing serious damage? Certainly, it is quite conceivable, because the stomach is an infinitely big thing compared to the size of the wire, and it is continually filled with a lot of coarse provender in which the wire would be more or less embedded. That provender is moving round the stomach the whole time, and it could carry the wire with it for long enough before ever the wire got an attachment in the mucous membrane which would give it a chance of exit.

Do you remember at the *post-mortem* that Mr. Robb looked for thickening in the abdominal wall or perforation or scar, and found none, and pointed out that fact to you and the other gentlemen who were present? I do not remember that taking place.

I put it to you also that at that time Mr. Baxter said that it was quite apparent that there was no rupture, and that there was no connection whatever between the abscess on the abdomen and the piece of wire? It was granted that there was no rupture, but I never heard Mr. Baxter say that there was no connection between the abscess and the lesions that were found inside.

Did he say there was no connection between the abscess on the belly and the iron wire? He never said it in my presence.

Did you not agree that that was so? No.

Did you never agree at any time that there was no connection between the iron and the abscess? No, I never agreed to that.

By the Arbiter.

Before you could have had an abscess such as you saw, say, in June, the wire would have to have penetrated the bull's stomach? Yes. It must have produced a tissue injury.

I understand your view to be that such penetration might leave no trace which could be observed, say, six months or eight months afterwards? I believe that wire could penetrate the bull's stomach for a matter of an hour or two and be taken back again into the stomach, and 36 hours later you would not be able to trace the wound.

But notwithstanding that, protrusion for an hour or two would be sufficient to cause the mischief which led to the abscess? Yes, certainly.

I understand further that at the *post-mortem* examination in February, 1925, there was such considerable inflammation, general inflammation, as would in your opinion have rendered it impossible to discover in the stomach wall or abdominal wall injury due to the penetration of the wire? Due to the penetration of the wire, except the one that the wire was actually present in at the time of the *post-mortem*. There might have been five or six penetrations by the wire and the whole of them obscured by the amount of inflammatory tissue and the inflammatory exudate which was present in the neighbourhood of the wire.

Of course the peritonitis you found in the neighbourhood of the wire at the *post-mortem* was generalised? Yes.

Did you form any opinion as to how long that generalised peritonitis had lasted? The generalised peritonitis was the actual cause of death, and it had not been in existence very long.

Was it a matter of hours or days? With acute peritonitis a cow will live 36 hours or two days.

Assume there had been penetration of the stomach wall by the wire within 36 to 48 hours which resulted in the general peritonitis which you found, do I understand your opinion to be that the other abscesses which were found in the other organs, the liver, kidney and so on, must have been there for a very much longer period? What I hold is this, that the wire at its last penetration never got back into the stomach. It was always pressing through this hole it made in the stomach wall, which was evidenced by the amount of thickening in the stomach wall which showed that the wire had been pressing through that penetration for a considerable time—I do not know how long—and the generalised peritonitis would be due to the spread of the peritonitis that was resulting from this penetration, and through possibly a tumble or a strain on the part of the bull and a tearing of the inflammatory tissue to a certain extent and liberation of some of the liquid.

What I really wanted to know was this—there were other abscesses found in the other organs? Yes.

How did you connect these with the wire? Due to the absorption of sepsis from the seat of the lesion produced by the wire travelling either through the lymphatic vessels or the blood vessels—septicæmia.

These are due to septicæmia and not to local injuries? That is so. They could not be local injuries in the position they were in, between the liver and the kidney and inside the omentum.

It has been suggested that, looking to the length of the wire itself, it is not possible that the animal could have swallowed it in its food without external assistance? The wire, as I said before, is certainly more curved than it was when it was taken out of the bull, and the straightness of the wire when it was taken out of the bull would have permitted it to be swallowed quite voluntarily without any difficulty. It would be a physical impossibility for any man to put that wire into the bull's mouth and force it to swallow it.

Why ? Because the bull's tongue and his jaws would be moving the whole time. They would not be moving in unison when the man's hand was holding the wire, with the result that the wire would be everywhere in the bull's mouth except opposite the phalanx, and would be injuring the mucous membrane either of the bull's throat or cheek or tongue, and it would irritate him so much that the man would be very thankful to get out of the road within two minutes.

Take the wire as you find it now with the curve on it, in your opinion would it have been possible for the bull to swallow the wire as it is now ? No, I do not think it would, or at least it would be extremely difficult for it to swallow it in the condition in which it is now.

Supposing that the wire had been practically straight when it was swallowed by the bull, can you imagine any cause which might bend it after it got into the bull's interior ? Nothing that would bend so stiff a wire as that.

I understand your evidence to be that when you saw the wire taken out of the animal it was much straighter than it is now ? I am positively certain that it was.

Was it difficult to extract ? No, it was pulled out quite easily. The knacker touched it with his knife and then he caught it. We did not know how big a bit of wire it was.

Do you think it might possibly have been bent in the process of extraction ? No, it pulled out quite easily.

Professor JOHN RUSSELL GREIG and Mr. WALTER MILLER JACKSON, M.R.C.V.S., gave supporting evidence.

EVIDENCE FOR THE RESPONDENTS.

Mr. JOHN WILLIAM BAXTER, M.R.C.V.S. (*examined by Mr. Gilchrist*): The first time I saw the bull, Terling Trojan, was on 18th June, 1924. The bull had been seen by a veterinary surgeon, and there was a rather uncertain report about it ; they were uncertain whether the bull had a hæmatoma, rupture, or an abscess in the floor of the belly. It was reported to me that it had a fluctuating temperature, had a capricious appetite, and was falling away in condition. That was the report that was made to the Respondents. . . . . I asked Mr. Wilson what was the history, and he told me when he saw the bull it had a swelling which he described as being about as big as an orange under the belly, that he had applied reducing agents, and apparently it went away. After some time it recurred and gradually got larger and larger until it was in the condition in which I saw it. I then examined the bull. I found a pronounced swelling along the floor of the abdomen. I was perfectly certain it was pus, and I explained afterwards why I considered it was an abscess pure and simple. I told Mr. Wilson it was an abscess. If it had been a hæmatoma there would have been no swelling, and if it had been a rupture the pain would have been acute, but there was no pain. Mr. Wilson did not agree with me that it was not a rupture or hæmatoma. I had tea with Mr. Jack that day and I told him that it was much of the nature of a capped elbow in a horse. I formed the opinion that it had been caused through bruising, that it was the result of contusion. It was never suggested at all that the abscess might be due to the presence of a foreign body. That explanation had not occurred to Mr. Wilson ; he said he thought it was a hæmatoma, a rupture or an abscess, but he did not hazard an opinion as to what the abscess arose from. The Respondents received reports from Mr. Wilson from time to time and I saw these reports. I heard that the bull's temperature had returned to normal after they had operated on it. I was not present at the operation. It was a simple operation to do. If there was any doubt about the operation I offered to stay and do it myself.

By the Arbiter. Q.—At that time nobody had suggested the presence of a foreign body ? A.—There was never a word said about it.

(Examination continued). Q.—Would you have expected any other symptoms to have been present if there had been a foreign body present ? A.—It could not have been a foreign body because when this swelling first came up it was reduced, and if there had been a foreign body there it would have gone on to a big abscess. Q.—In July and August did you receive reports to the effect that the bull was doing well and its condition was improving ? A.—I think I was told it was doing very well. I do not think I saw the reports. Q.—When did you next hear of the bull ? A.—About the 16th February, 1925. I was away at Plymouth on a big job, and I got a telegram to go on to Glasgow in a hurry. I had previously heard that the bull had diarrhœa. That was on the Monday previous to the Friday on which the bull died. I think that would be the 12th. Subsequently, I saw a telegram which stated that the bull was found dead. The Respondents then instructed me to go to Glasgow and hold a *post-mortem* examination. Mr. Wilson and Mr. Jack were late in turning up and I had some time to wait. I had a look at the bull then, and I satisfied myself that there was no rupture. I did so by manipulating the part ; I handled the part. As soon as I saw the bull, I said : " This bull has died of suffocation." Mr. Wilson was not present at that time. When Mr. Wilson arrived the bull was skinned back, and that left the abscess formation and the penis and the organs all intact. I said : " First of all, we will take off the abscess formation," and it came off quite clear ; the abdominal wall underneath was as smooth as marble. Mr. Wilson was present at that time ; nothing was touched until Mr. Wilson came. Q.—Did you call the attention of Mr. Wilson to the unbroken state of the abdominal wall ? A.—I passed a general remark ; I said : " Well, that is clear enough, there is no perforation there." Q.—Did you say that the death in your opinion was due to suffocation ? A.—I do not think I said it to Mr. Wilson : I just passed that remark when I saw the bull.

By the Arbiter. Q.—At the time you passed the remark to Mr. Wilson as to the smoothness of the abdominal wall had you not even then suspected a foreign body ? A.—I had not. I had no reason to suspect it.

(Examination continued). Q.—What was done next ? A.—The bull was opened up in the ordinary way, and when the knackery man was cutting down the side he struck something. I had a look at it, and I saw that there was a piece of iron projecting about a quarter of an inch outside the rumen. Q.—After the abscess formation had been removed was the abdomen next opened up? A.—Yes. Q.—And what condition did you find when the abdomen was opened up ? A.—The first thing that happened was when the man was skinning down the knife struck the wire. I looked and I saw that the wire was just through ; it was the blunt end that was through, not the sharpened end. I said : " Pull it out," and when he pulled it out I was amazed. It was just through the wall of the stomach, and was projecting to the extent of about an eighth of an inch. Q.—Did you particularly examine it before it was withdrawn ? A.—I saw what it was. There was absolutely no penetration of the abdominal wall whatever. There was generalised peritonitis. I also found abscesses on the liver, kidney and wall of the first stomach ; there were three distinct abscesses. There was no abdominal rupture ; the iron was just through the wall of the first stomach. Q.—Do you consider that piece of iron had any connection with the external abscess for which the bull had been operated on ? A.—Nothing whatever to do with it. I called Mr. Jack forward and said : " How do you account for this piece of iron ? " and he said : " You have seen a man swallow a sword." I said : " Never in my life. I have seen what you have seen—I have seen a man stand on the stage and put a sword down his throat." He said : " That is what I mean." I said : " This bull has got no hands ! " Q.—But he managed to swallow it ? A.—It was swallowed. Q.—In short, did you indicate your opinion to Mr. Jack that the bull could not swallow that thing himself ? A.—It was commonsense. He could not swallow it naturally. I could not think how he got it. I asked everyone about the place if they had seen anything like it and they agreed that they had not. Q.—Did you pay particular attention to the three abscesses found on the kidney, liver and wall of the stomach ? A.—I did. Q.—Did you form any opinion as to the length of time they had been there ? A.—I was certain they were

recent. Q.—Why ? A.—As soon as you touched the tissue adjacent the contents of the abscesses ran like milk. The abscess sac was quite thin and it broke to the mere touch. If it had been any length of time the pus would have been inspissated, but it was not, it just ran like milk. You could not touch the tissues without breaking them. I attribute that condition to the septic condition set up by the iron coming out of the stomach. Q.—Did you form any view as to the length of time that the piece of iron had been present in the bull's first stomach ? A.—I was of opinion it had been there a very short time, and I will tell you why. It was absolutely bright. The rumen is always on the move ; the ox chews the cud and the food is always being turned over and brought back, and taking into consideration the length and weight of it I was *certain* it could not have been there long. I cannot conceive that piece of iron being in the stomach very long without penetrating the wall of the stomach. It was certain to have caused trouble. . . . . Q.—Would you expect the iron to be in the condition you found it in when it was taken out if it had been there for a long time ? A.—Certainly not.

By the Arbiter. Q.—In what respect ? A.—I do not think it would have been as bright as it was. It came out absolutely bright.

(Examination continued). Q.—Do you think it is possible that the iron might have been there for a period of anything like ten months ? A.—No, I do not—certainly I do not. Q.—It is suggested that the original abscess which first led to the bull becoming ill was due to the presence of the piece of iron involved. What have you to say to that ? A.—Of course not. How could it ? Q.—Is it your opinion that it is impossible ? A.—Absolutely. It was said that it would go in and out. It is ridiculous to say such a thing. Just imagine, you have got the abdominal wall, the wall of the rumen, two folds of peritoneum and you have your skin. The skin is an elastic tissue. When a bull is blown up and you have to use a trocar and canula to let the wind out you push it into the left side, it is sharpened to a very high degree, and you have to use force to push it through, so that it is difficult to think of a piece of iron like that going through and out again.

By the Arbiter. Q.—Do you mean is would never reach the abdominal wall ? A.—It could not have gone through if it ever reached it. There would have been a mark where it came through.

(Examination continued). Q.—It was through the rumen that you found it ? A.—Just through the wall of the rumen, but it was the blunt end. The hole was such that Mr. Wilson could not push the iron through when he tried to. I gave it to him and asked him to push it through. Q.—There must have been a hole ? A.—Certainly there was a hole. If it had been there for any length of time there would have been a distinct hole. It had not been there for any length of time to make it a distinct hole.

By the Arbiter. Q.—Supposing that the wire did go through the wall of the rumen and sufficiently through the peritoneum to get just to the abdominal wall, might not the irritation upon the abdominal wall have caused the abscess you found ? A.—No, if there had been any connection between the iron and the abscess that abscess would not have cleared off. The wall of the abdomen was quite clean. The abscess was on the external wall of the abdomen. Q.—Therefore your view is that in order to cause that abscess the iron would have had to go through the wall of the rumen, the folds of the peritoneum, the wall of the abdomen itself and have reached the skin ? A.—Yes ; and supposing it had done that you would have had an unhealthy wound to start with which would not have healed, and your abdominal wall would have been perforated. It certainly must have affected the surrounding tissues. I saw the bull on the 18th of June, 1924, and it did not die until the 16th of February, 1925. The internal condition of that bull would have been absolutely rotten if there had been any connection between that iron inside and the external abscess. . . . .

(Examination continued). Q.—Have you formed any view as to when the perforation of the stomach took place which you found at the *post-mortem* ? A.—A very few days prior to the death. Q.—From what did you form that view ? A.—The nature of the abscess, the nature of the adhesions, and the nature of the tissue at the point of exit. . . . Q.—Have you formed any view as to how he came to get that piece of iron into him ? A.—I am absolutely sure he could not swallow it in the natural course of feeding. Q.—Give us in detail your reasons ? A.—A bull collects the food with his tongue and chews it round and round, and it goes into the teeth, and he could not possibly have swallowed that piece of iron naturally. Q.—How do you think it got into his stomach ? A.—It got into his stomach, and the only way I can think it got in was that the bull was helped to swallow it. Q.—In all your experience have you ever seen anything approaching from the point of view of length and weight the piece of iron produced in this case ? A.—No, I have taken very great pains to try and find out, and everywhere I have asked there is no record of anything like this. I have asked all over the country. Q.—There has been some evidence by the Claimant and his witnesses to the effect that no man could have put that piece of iron into the bull's mouth. Do you see any reason why a man should not do it ? A.—I heard Collins say this bull was not quiet. I heard other people say so too. All I can tell you is that the opinion given now is absolutely opposite to the opinion offered to me at the time I examined the bull. Collins said that the bull was quiet, that the bull was not vicious. I am not quite a fool ; I would not go up beside a vicious bull without fixing him. Q.—How did you find the bull ? A.—I handled him with a bull-stick. Q.—Do you see any reason why it would be impossible to put a piece of iron in the bull's mouth ? A.—Certainly not. I bet I could have put it in quick enough. Q.—In your view the bull could not possibly have swallowed that without assistance ? A.—I am sure he could not. Professor Robb said it was impossible to swallow it. Q.—To summarise your evidence, the abscess which you found in the bull in June, 1924, in your view was not caused by a foreign body inside the animal ? A.—I am absolutely sure of it. If it had been the bull would not have lived that length of time. Q.—The iron which was found in the body at the *post-mortem* could in your view only have been there for a short time ? A.—Yes. Q.—A matter of weeks ? A.—At the very outside. It only came through the wall of the rumen four or five days, I am absolutely sure, before that. I have told you my reasons. Q.—Lastly, your view is that the bull could not possibly have swallowed the iron without assistance ? A.—I do think so.

Following Mr. Baxter's cross-examination for the Claimant,

Professor JAMES MCQUEEN, F.R.C.V.S.,

Examined by Mr. Gilchrist, said : . . . . In June 1925, Mr. Baxter, the last witness, brought me a piece of wire which had been found in the stomach of a bull, and I was given particulars regarding the death of the bull. I was told that the piece of wire was supposed to have been the cause of death. I was told the wire had been found in the rumen of the bull. I was also told it had been protruding through the wall of the stomach when it was found. I was told it had perforated, but the distance was not mentioned. (Shown wire.) That is the piece of wire that was shown to me, but it was not quite in the same shape. The graph now shown to me is more like it. Q.—I suppose in your experience it is usual to find in the stomachs of bovine animals small pieces of iron ? A.—Yes, foreign bodies, nails, pebbles, and so on—usually in the second stomach. Q.—In your experience what is the largest piece of metal you know of being found in a bovine animal ? A.—A bit of wire about five inches long. I have never seen or heard of a piece of wire of the dimensions of the one now shown to me being found in a bull's inside. Q.—Or anything approaching that piece of wire ? A.—Not in the form of wire. There are cases recorded of an ordinary human shoe and pieces of cloth being found, but not a piece of metal of that length. I have considered the

possibility, in the light of my experience, of a bull swallowing of its own volition a piece of wire of that length. My opinion is that no bull, or any of the ox tribe, would swallow that without assistance. Q.—Will you give us the grounds of your opinion to that effect? A.—The one is that that being a naked piece of metal, the animal as soon as it got it in its mouth would very likely reject it, and suppose it were wrapped in hay it is quite likely the animal would pick it up, but it would find the wire between the teeth, and as soon as the teeth struck the metal most likely it would be rejected. I made experiments to see whether I could get an animal to swallow something similar. I exhibit a piece of wire bent to resemble somewhat the original piece. The length is the same—as far as I remember it was 21 inches—but of course it is a heavier bit of metal. This is a quarter of an inch in diameter. The actual piece of wire is rather less. I tried it on four cows. I fed it into the animals' mouths, and with one exception they all took the iron in, got it between their teeth, and then I had to support it, otherwise it would have come out. The movement of the tongue constantly pushed the iron towards me so that I had to hold it and always replace it in order to keep it in the mouth. I then said it was unlikely that it would be given to the animal uncovered, so I got some treacle and coated the iron with treacle. I went over the four animals again, and with one exception they all took the iron into their mouths quite readily, licked the treacle, got the iron between their teeth, and as soon as they commenced chewing the iron came back to me, and I had always to support the iron in order to keep it in the mouth. The animal that was the exception would not take the iron further than the lips or entrance to the mouth, either naked or covered. Q.—Did that just confirm your experience as to the impossibility of an animal taking a piece of metal like the one produced over his throat? A.—Previous to trying these experiments, I had formed the opinion that owing to the tongue being the chief prehensile organ, a piece of iron like this was bound to get across the mouth in any attempt to take it in. Q.—Tell us how that is? A.—The tongue must draw the food into the mouth, and in wrapping the tongue round the wire the wire is bound to get across the mouth. Q.—Supposing that the end of the wire got into the mouth first, was there any means by which the bull could pull it into the back of its mouth and so into its stomach? A.—No, that is quite against the ordinary mode of mastication. There is no such thing as a bull bolting its food. A dog will swallow a hat pin, but that is by bolting: there is no chewing at all. But you cannot put anything in an ox's mouth without some effort at chewing. Supposing I had wanted to administer this piece of wire I could have passed it into one of these cows with the greatest of ease by keeping the middle line, and once it entered the larynx it would be seized and sucked in and down it would go. The same thing happens when you are passing the probang in cattle. When using the probang in the case of a horse the same thing applies; if you hold it in the middle line you can do it quite easily. Of course you have to assist it. Q.—In the absence of that assistance do you see how it is possible for the bull to have got that piece of iron over its throat? A.—No. Q.—Did you also apply your mind on the information supplied to you as to how long a piece of metal such as the one shown to you could remain in the stomach of a bull without serious damage resulting? A.—I applied my mind, but without coming to any conclusion. If you take a piece of iron and place it in the rumen, which is a cavity with a capacity of 45 to 50 gallons, it is impossible to say how long it might sojourn there. Its weight naturally would carry it to the bottom of the stomach, and it might remain there for months. But if it once got across of course it might do some damage. Q.—The stomach, of course, is in a constant state of movement? A.—Yes—not very active movement, of course. Q.—Is it likely that would be for any number of days in the stomach without perforation? A.—Yes. It depends altogether on its position, I think.

Cross-examined for the Claimant, by Mr. King Murray. As regards these experiments you tried on the cows, would you have cared without assistance to have attempted the same experiments with a bull like Terling Trojan? Oh yes. I did not see Terling Trojan, but as a rule bulls are fairly tractable.

As a layman, it strikes one as rather a dangerous proceeding to stand in front of a bull and manipulate a wire? Oh no. I have no fear of a bull in that respect. If you were feeding a bit of wire with treacle on it I think you would find a bull quite a friendly animal.

Am I right in gathering from your evidence, as regards the first experiment you made with the bare wire without treacle, that the tendency of the animal was to reject it? Yes.

Is it not a well-known fact in connection with cattle that once they get a thing into their mouths they tend to swallow it? It depends altogether on what the thing is. I do not think cattle are so stupid as most people think they are. If they get a piece of iron or a bit of stone in their mouth it is far more likely to be rejected than swallowed.

Is not the construction of the tongue of a bovine animal such as to make it tend to swallow whatever it gets into its mouth? No.

How do you account for the fact that bovine animals do swallow all sorts of unexpected articles, such as corduroy trousers, boots, shoes, nails, and all sorts of things? How do you account for that? Cattle usually do these things as they are grazing.

How do you account for that tendency? I suppose it is the weakness of the bovine intelligence.

You have just told us that they are not so unintelligent as they are given credit for? I did not say they were intelligent before. It is simply they have a great habit of playing with things.

So that you think it is their playfulness? I do.

Has it nothing to do with the fact that they are ruminating animals; that is to say, they do not chew their food, but it is taken into a container and brought up again before it is chewed? They chew it first; they reduce it to the condition of a bolus and then swallow it in the rough state.

Do you say, so far as your experience goes, that the only reason you can give for the admitted habit that bovine animals have of swallowing pieces of iron and so on is their playfulness? Yes.

And if by any accident a piece of wire like the one you have before you got into a certain position in a cow's mouth or bull's mouth do you think it would have no difficulty in getting it over? If it were kept in the centre.

But if it happened to get into that position? It would not happen to get into that position unless it was held there.

You say it could not happen? That is so.

Have you ever used a probang on a cow or bull? Yes.

Did you do it alone? Yes.

What kind of animal was it? I have used it on a horse and a cow.

Would you really have attempted to use such an instrument upon a bull weighing a ton and a quarter without assistance? No, not without assistance. You mean so far as the passing of the probang is concerned? Yes? You must have assistance.

You would require assistance to control the animal? Yes, to hold the animal's head.

How many persons would it require to hold a bull? For the passage of a probang?

Yes? I should think two, including the operator who manipulates the probang.

Would you require a gag? Yes, otherwise he would chew the probang.

Have you had any experience of Friesian bulls? Yes, with regard to their affections, diseases.

In the matter of using a probang, I mean? No.

You do not say that you and another man could have gagged this bull and passed the probang? No, you want two men to hold the head besides the operator. That is three. That is what I meant.

You mean two men and yourself? Yes. If you have any doubt about it I will undertake to do it. If passing

a probang is considered a formidable operation then I must unlearn the whole of my experience.

You have not done it with a bull of that type? Not an actual Friesian, but with a Jersey, Ayrshire and Shorthorn.

Did you try any experiments with your piece of wire rolled in hay? No.

Would not that have been quite a likely way in which the animal might have got the wire into its mouth? Yes, but then it would have chewed the hay and come to the iron.

By the time it had chewed the hay and come to the iron might the iron have got into the position in which it would slide over? No, it must keep to the teeth. Another reason for my holding that the iron would not be swallowed spontaneously or without assistance is that no matter what you give a bovine animal you will find it finds its way to the teeth in one way or another.

So that you think this piece of wire could not have been administered to the bull merely by putting it in among its hay? No.

It must have been actually put into the mouth? Yes, and held, or simply steadied.

You have heard of a case of a carving knife being in a cow's stomach for some months? I heard of it to-day for the first time. I would not expect a cow to swallow an ordinary carving knife. I should like some verification of that statement.

Wire of various lengths is quite a common thing, although perhaps not so long as 22 inches? I have never known anything so long as that.

But, apart from the length of it, wire is quite a common thing? Yes, pieces of wire.

Is it merely the length of this wire that causes you to think it could not have been swallowed? Yes: you cannot get it across the mouth.

What is the width of the mouth of a bull? That is a difficult question. I should think that from cheek to cheek a bull would measure about seven inches. Of course you have to allow for the size of the head. Everything is in proportion.

So that in your opinion a wire of more than seven inches in length could not be swallowed without assistance? Without assistance.

(Shown umbrella stay). Do you think that could have been swallowed by a bull without aid? Yes, if it is bendable.

Would it not reject it just as you say it would reject the other? I could not say. These flexible things do go down.

Do you agree that the types of things found in the stomachs of animals have to be seen to be believed? I am referring to what is to be found in the *Modern Veterinary Adviser?* I wish you would not ask me about these things. My experience is that they are all based on ancient practice; all these traditional statements are handed down from generation to generation.

Accordingly, may I take it you do not agree with what is said at page 54 of the *Modern Veterinary Adviser*, where it is stated that the number and variety of things swallowed during grazing and feeding by cattle have to be seen to be believed? Do you agree with that? I do not agree with that.

Personal.

Will.—Mr. Richard Alwen Thrale, Park Hill Rise, Croydon. ... ... £31,408.

Appointment.—Mr. Gordon B. Taylor, M.R.C.V.S., has been appointed assistant veterinary inspector for Ayrshire under the Ayr County Council.

Mr. Taylor, who is 25 years of age, was born at Kendal, Westmorland, and educated at George Heriot's School, Edinburgh. Receiving his veterinary education at the Royal (Dick) Veterinary College, Edinburgh, he graduated there in 1922.

He afterwards had practical experience as assistant to veterinary surgeons in Doune, Annan, and Haddington.

DIVISIONAL REPORT.

Central Division.

ANNUAL GENERAL MEETING.

(*Continued from Page* 1013).

ELECTION OF OFFICERS.

President: The retiring PRESIDENT: The next item is, if I may so term it, the real business of the evening—the election of office bearers. I feel that it is perhaps the duty of the out-going President to propose the in-coming one. If it is not a duty, it is certainly a pleasure, because I think that we have amongst us one who will make us a splendid President for the ensuing year. I am very glad to indicate to you that Major Dunkin has very kindly consented to be our next President (Loud Applause) and in Major Dunkin I am sure that we shall not only have a President whom we can admire in every conceivable way, but one who will always keep the Society, and the welfare of the Society, well in front of him. (Hear, hear.) I am certain that we could not get a better person amongst us and I have very great pleasure, therefore, in proposing formally from the Chair the election of Major Dunkin. (Applause.) He has done, as I say, a great deal for the Society and he is prepared to do more. I trust that we shall give him the greatest support we possibly can. Speaking personally, I certainly intend to do so, and I hope and believe that all the Fellows of the Society will do the same. (Applause.)

Colonel YOUNG: I should like to have the honour and the pleasure of seconding the proposal that Major Dunkin be our President. In doing so, I do not think I can add anything to what Major-General Sir John Moore has said. I know Major Dunkin and I know him well, and I am perfectly sure that the affairs of the Society will be in good hands when they are in those of Major Dunkin. I am perfectly sure that there is not a member of the Society who will not accord him not only the hearty respect due to the holder of the office of President, but every assistance that can be given him to carry out his duties during the year. (Applause.)

The proposition having been carried with enthusiasm,

The PRESIDENT said: I have now the pleasant duty of calling Major Dunkin to the Chair.

Major DUNKIN, amid loud applause, took the Chair vacated by the retiring President, and said: Sir John Moore, Colonel Young, and gentlemen, it is quite unnecessary, of course, for me to tell you how deeply grateful I am and how highly honoured, not only at my election as the President of this excellent Society, but also because of the kindly words spoken by the gentlemen who proposed and seconded it. I cannot pretend, and I do not propose to do so, that this honour has been sprung upon me as a surprise. As a matter of fact, I have had the opportunity of considering the position which I am about to hold, and I have

been wondering what attributes I possess which entitle me to hold this office. I have come to the conclusion that I only possess two—two which only place me on a par with every member of this Society, and these two which I possess—and I think I may claim to possess them on a pretty high plane—are my enthusiasm for and my admiration of this Society. (Applause.) And, frankly, if you will accept me on those conditions, I am quite willing to do my best, though I have no doubt that I am faced with a very difficult task in following in the steps of Sir John Moore. It is always a difficult matter to follow a good man in a position that one holds for the first time: the difficulties of that position are only increased by the excellence of one's predecessor, and therefore I find myself in a particularly difficult position. On the other hand, I feel confident that I shall have your support during the forthcoming year, and if I have your support I have no doubt whatever that the deliberations of this Society will come up to the high standard that they have attained in the past. (Applause.)

Colonel YOUNG: I rise to perform a duty which is not only a pleasant one but which is a well-merited one, and that is to propose that you carry a very hearty vote of thanks to Sir John Moore for his conduct in the Chair during the past year. (Applause.) Sir John Moore is as full of enthusiasm as it is possible for anyone to be and that not only in connection with the affairs of the Central Veterinary Society, but in connection with the progress and the dignity of the whole of the veterinary profession. I am sure his conduct in the Chair has lent dignity to our profession as a whole as well as to the proceedings of this body. (Hear, hear.) I have been in touch with him during the whole of the time and I can assure you that no one could have entered into the duties of the Presidentship with more wholeheartedness than he has done. As Major Dunkin has well said, it is very difficult to follow one such as Sir John Moore, but I feel sure that in our new President we have one who has youth, energy and untiring ability and who will do everything he possibly can to follow in the footsteps of one who has acted so wonderfully well as Sir John Moore has done in the capacity of our President. I ask you to accord a very hearty vote of thanks to our past President.

The meeting passed the vote of thanks with acclamation and, in acknowledgment, Sir JOHN MOORE said: I am very deeply touched by what Colonel Young has said about me personally and by the manner in which you have received what he has said of me. I feel that I have not done very much during my term of office, but I have always thought it a duty to do anything I possibly could for the Society and for the profession generally. Colonel Young mentioned one word in his short speech and that was "youth." Unfortunately, I am getting on in years (No! No!). I am one of the oldest members of the profession and very soon I shall be promoted to the list which Mr. Livesey and Mr. Bullock are bringing out, as a special addition to the Register, of the old members of the profession. However, as I say, sometimes I feel very old and that I have one foot in the grave, but somehow I manage to get it out again (Laughter) and long may it continue to be so. (Hear, hear.) But I can assure you of this—that as long as I can possibly can do my duty to the profession to which I belong, to advance it in any way and to keep abreast of the times in the profession, I shall certainly do so. I do not think it is right that a retired officer should go completely "on the shelf": it is not my way of thinking, or my way of doing. (Hear, hear.) I shall attend as many meetings of the Society as I possibly can, and as long as I am on the Council of the Royal College and associated with the "National," I will do what I can to keep the profession together, to fight for it, and to bring it to the high standard to which I think it should be brought. I thank you again, gentlemen, for your kindly feeling towards me altogether. (Applause.)

Vice-Presidents: The following were elected as Vice-Presidents of the Society:—Sir John Moore, Mr. E. Brayley Reynolds, Mr. W. K. Townson, and Lieut.-Col. T. D. Young.

Council: The election of members of Council resulted in the following being elected:—Major Davenport, Major Hobday, Mr. Jones, Mr. H. C. P. King, Mr. Kirk, Mr. Livesey, Mr. McIntosh, Mr. Perryman, Lieut.-Col. Rainey, Lieut.-Col. Simpson, Major Dayer Smith, and Professor Wooldridge.

Hon. Treasurer: The PRESIDENT: I am going to ask you to permit me the pleasure and honour of proposing, as you will no doubt expect, the re-election of Mr. Stroud as our Honorary Treasurer. (Applause.) You have all heard with pleasure and with no surprise the glowing terms in which Mr. Livesey spoke of our Treasurer. His is a very onerous job and we are deeply indebted to Mr. Stroud for carrying on the duties of his office so well and so long as he has done. We all hope he will accept the position for another year. (Applause.)

Mr. STROUD accepted the office, and returned thanks for his election. It would be his endeavour, as heretofore, to look after the financial interests of the Society to the very best of his ability. He was proud and glad to know that the Fellows appreciated his services, to which he felt they always referred in far too glowing terms.

Hon. Secretary: The PRESIDENT: I have a very special reason for hoping that Mr. Macdonald will accept re-election. It is quite unnecessary for me to add anything to what has been said about Mr. Macdonald, in his capacity as Secretary, in previous years, but already, in the very short space of time in which I have had to deal with him officially, I have found him indispensable.

Sir JOHN MOORE, in seconding the President's proposition that Mr. Macdonald be re-elected, said that, but for Mr. Macdonald, he did not think any President could carry on properly—that certainly had been his experience. What he (Sir John) would have done, as President, without him he did not know. Mr. Macdonald was one in a thousand in his particular appointment.

Mr. MACDONALD returned thanks in suitable terms, in acknowledging the assent to the proposition.

Trustees: Mr. S. H. Slocock, Mr. E. L. Stroud, and Mr. J. Willett were re-elected trustees and were warmly thanked for their services during the past year.

Auditors: Mr. G. H. Livesey was re-elected auditor, as a member of Council, with thanks for his services during the preceding twelve months, and Mr. C. N. Thompson as the remaining auditor.

ANY OTHER BUSINESS.

Under this heading, Professor WOOLDRIDGE drew the attention of Fellows to the newly-introduced "Sor" brush in the following terms: With the President's permission, I wish to bring to the notice of the Fellows an exhibit which I think will be of interest to them in some reservoir brushes that were submitted to me the other day and which appeared to me likely to fill a want amongst practitioners. I myself am quite sure that I shall find the brushes of very great service. In connection with parasitic diseases and the dressing of the skin of animals, one knows what an awful business this is sometimes and how half the material is often wasted on the ground, and how difficult it is to get the dressing uniformly distributed over the body. My attention has recently been drawn to these reservoir brushes, which seem to fill a want in that direction. The principle is that the handle has a reservoir, which can be filled with the parasiticide or other dressing, from which fine tubes run to the centre of the brush, and from which, in turn, it comes out with a very slow and even supply, which can be well brushed over the body with a minimum of trouble and without the making of a terrible mess, or wasting a considerable amount of the preparation. I have used these brushes and find that they answer very well for the purpose for which they are designed.

There is only one thing that I can see about them that might possibly be considered a disadvantage: it is that you are limited to some extent in the character of the material you must use, since the fine calibre of the tubes renders it necessary that the liquid, used should not be at all thick or viscid, but a fine one and preferably of a spirituous nature. These brushes are made in several different sizes—one for short-coated dogs, another for long-haired dogs, while there may even be obtained a body brush for use on the horse. The people who have put these brushes forward also produce an application which they consider it desirable to use with them, not only on account of its reputed efficacy, but because of the ease with which it runs through the tubes of the brush. I know nothing more than that about the preparation. The brushes are not expensive. I do not know what the actual price is at the moment because of the difference in the exchange. I believe them to be a very excellent thing, especially when one is so constantly called upon to prescribe for the treatment of animals with skin parasites, and we know how many good remedies fail to give good results simply because they are not properly applied.

The PRESIDENT: I have two announcements to make: one is that it has been decided by the Council to confer the honour of the award of the Victory Medal upon Mr. James Rowe, at the Annual Dinner this year. (Applause.) All of us are aware of the splendid work that Mr. Rowe has done in the past for the Central Veterinary Society and it is the wish of the Council that he be the recipient. The second item is in connection with the Annual Dinner. It has been decided to hold that on the evening of Thursday, November 4th, at the Trocadero Restaurant, and I am going to express the pious hope that it will be supported with the strength and enthusiasm that it has been during the past few years.

The proceedings terminated with a vote of thanks to successive occupants of the Chair, Sir John Moore and Major Dunkin, for their conduct of the meeting.

J. F. MACDONALD,
Hon. Secretary.

NOTES AND NEWS.

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events.

Nov. 15th—Meeting of the Editorial Committee, N.V.M.A., 10 Gray's Inn Square, W.C., at 4-30 p.m.
Nov. 24th—Meeting of the Western Counties Division at Cornwall.
Nov. 26th—Meeting of the Royal Counties Division at 10 Red Lion Square, London, W.C.
Nov. 30th—Changes in address for Register to be notified to Registrar.
Examination fees payable.
Dec. 7th—Membership Examinations (written).
Dec. 9th—Membership Examinations (oral).

Captain J. T. Edwards, B.Sc., M.R.C.V.S., Director, Imperial Institute of Veterinary Research, Muktesar, U.P., India, has, as an external student, passed the examination of the University of London for the Degree of Doctor of Science, in Veterinary Science.

THE EMBARGO ON FRESH CONTINENTAL MEAT.

"The recent memorandum, published by a committee of the various associations concerned in the importation of meat and foodstuffs, advocating the withdrawal of the embargo on fresh Continental meat supplies, has elicited a spirited rejoinder from the National Farmers' Union," says the *Daily Dispatch* of November 2nd. "There is no priggishness about the union's attitude to the general principle of placing embargoes on imported foodstuffs. In fact, the union specifies that it is not prepared to urge upon the Minister of Agriculture any such steps unless it can be proved with no less certainty than in the case of meat that those articles have to an appreciable extent brought disease to this country.

"On the question of an embargo on imported fresh meat supplies from the Continent, however, the union is adamant in support for health and economy reasons. The union affirms its ability to convince the committee, which is the author of the memorandum, that the present

state of foot-and-mouth disease on the Continent renders it dangerous and unwholesome to the community to import meat from there."

Animal Dietary and Disease.

Sir Robert Greig, chairman of the Board of Agriculture, Scotland, in his Chadwick lecture at the Royal Society of Arts on Monday night, said the investigation of the mineral requirements of animals had added a new field of exploration which offered promising results. The amount of mineral matter in a perfect food such as milk was small, but evidence accumulated to show that health and growth might be affected by the absence of an almost infinitesimal quantity of an element such as iron. Diseases in sheep and pigs resembling rickets in man could be prevented and cured by trifling additions of minerals to the food. It was possible that the prevalence of tuberculosis in the milking herds of this country was partly due to the susceptibility to disease resulting from deterioration of the constitution through defects in dieting.

Some 200,000,000 sheep and the same number of cattle were maintained on natural pastures throughout the Empire and these pastures were found to differ enormously in their ability to produce full growth in the animals grazed upon them. Moreover, certain pastures were more unhealthy than others and disease and sterility were common on these. It was found that the mineral contents of the pastures were definitely related to the prevalence of disease. The economic importance of this discovery was incalculable.—*The Times.*

The Imperial Conference and Medical and Veterinary Science.

At a meeting of the Research Special Sub-Committee of the Imperial Conference, Sir Walter Fletcher, Secretary of the Medical Research Council, outlined the constitution and finance of that body. They did, he said, much work on animal diseases as a part of the study of pathology. It was especially in the practical application and extension of existing knowledge that better scientific "staff work" for the Empire was, he felt, necessary. He would like to see much closer contact established between medical and veterinary science, since they are not two sciences, but one and the same. Sir Walter urged the creation of an Imperial scientific service which would enable an investigator who had successfully completed a research to be transferred to another part of the Empire, where his investigations might be continued, and would at the same time allow arrangements for due security of career and adequate rewards for service.

The strength of the Royal Army Veterinary Corps is to be increased by the voluntary transfer of men from other branches of the Service. A number of vacancies exist and the filling of them is urgently required.

H.M. Stationery Office Publications.

The undermentioned have been published during the week. Copies can be purchased through any bookseller, or directly from H.M. Stationery Office, at the following addresses:—London: Adastral House, Kingsway, W.C.2, a d 28 Abingdon Street, S.W.1; Cardiff: 1 St. Andrew's Crescent; Manchester: York Street; Edinburgh: 120 George Street.

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Agriculture and Fisheries, Ministry of:—				
Journal, November, 1926	0	6	0	6
Warble Fly Pest, Report of the Departmental Committee	1	9	1	10

Army Veterinary Service.

London Gazette—War Office—Regular Forces.

November 5th.—Captain M. Farrelly is seconded for duty with the Sudan Defence Force (October 4th).

Territorial Army.

November 5th.—Major J. A. Dixon, T.D., is appointed D.A.D.V.S. of a Division (September 24th).

CORRESPONDENCE.

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents.

Treatment of Sandcrack.

To the Editor of The Veterinary Record.

Sir,—I was interested in Lt.-Col. Rainey's article on "Sandcrack," in your issue of November 6th. Some years ago, I believe it would be about 1902 or earlier, I wrote an article on the subject for *The Veterinary Journal* and illustrated it with representations of simple instruments which I have been using in the treatment of sandcrack for over thirty years. The principle of the operation is similar to that given by Lt.-Col. Rainey. The treatment and illustrations are given at page 250 of Courtenay's *Veterinary Medicine*, edited by Major Hobday. The treatment there advocated has the advantage that the crack is immobilised, as well as treated, and the horse can be put to work in much shorter time than a fortnight. Up here, and in cases where the same firms employ both motor and horse haulage, if we did not get a horse with sandcrack to work in less than a fortnight, we should hear about it.

I have had many of mine working within a day or two of operating, but I often put a warm antiseptic poultice on the foot for a time, either just before or just after operating and then fill up with Stockholm tar afterwards.—Yours truly, G. Mayall, M.R.C.V.S.

Bolton.

"Nator B" and Contagious Abortion.

To the Editor of The Veterinary Record.

Sir,—My friend and colleague, Mr. W. Francis Hughes is apparently a true optimist. Under such circumstances as are recorded by him in this week's *Record* I do not think he is entitled to give all credit to the "Nator B" vaccine—because of the previous use he had made of live and dead bacilli. Surely, these had *some* effect. Then, again, if nothing at all had been used, there is the process of auto-vaccination to be taken into consideration, as the disease had existed in some of the herds since 1921. Another extraordinary feature of his experience is that there were no cases of sterility among the 200 cows.—Yours faithfully, H. Llewellyn-Jones, M.R.C.V.S.

Denbigh,
6th November, 1926.

The Editor acknowledges the receipt of the following:

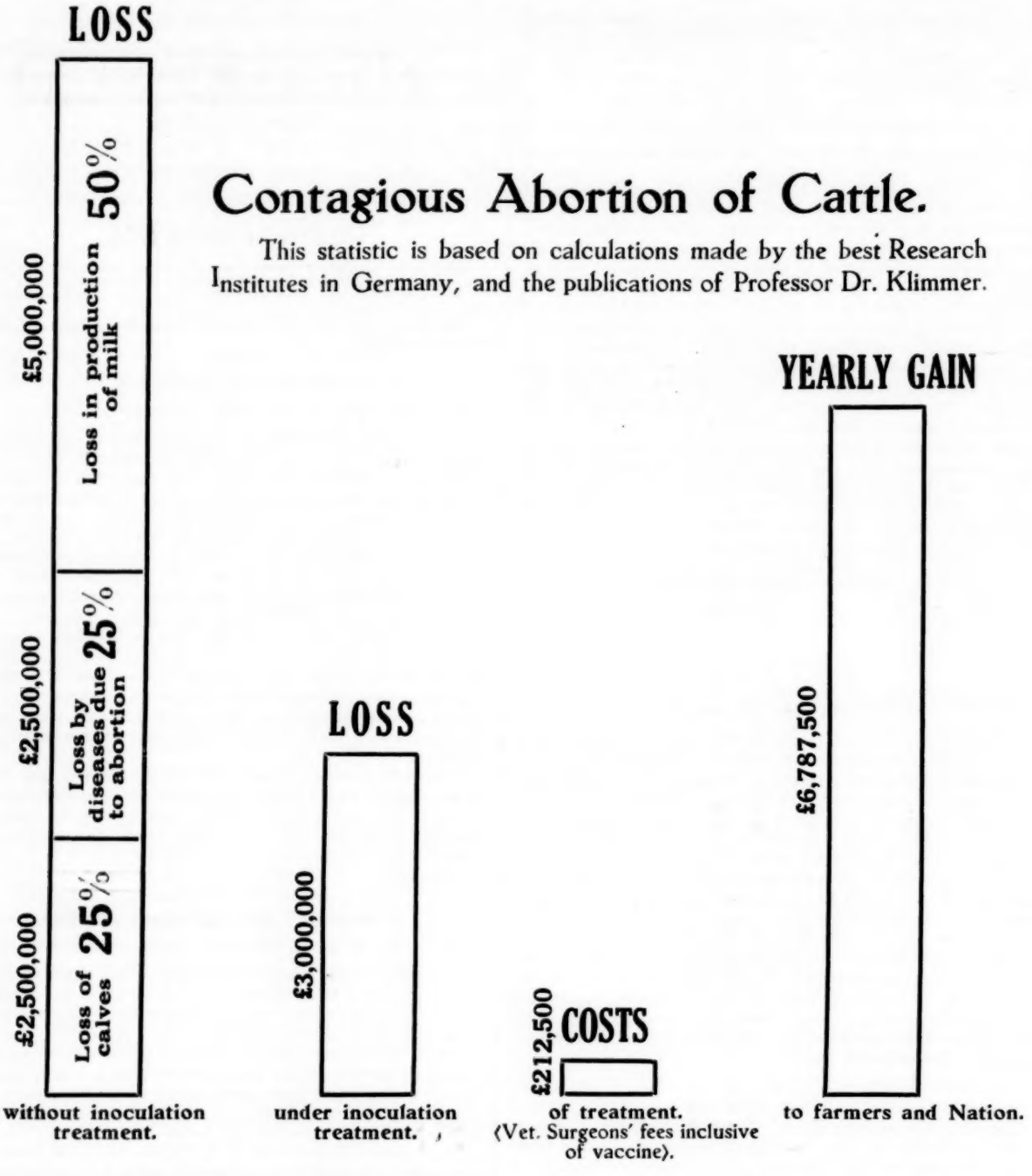
Communications from Messrs. Alfred Johns (Kimbolton), H. Gray, J. D. Pottie (Greenock), H. Taylor (Hayward's Heath), and H. M. Wilson (Cupar).

Report of a meeting of the Dumfries and Galloway Division from Mr. A. Young, Hon. Secretary.

National Veterinary Medical Association of Great Britain and Ireland.

EDITORIAL OFFICE: 10 Cray's Inn Square, London W.C.1.

All communications relative to the literary side of the Veterinary Record must be addressed to the Assistant Editor, "Veterinary Record," 10 Gray's Inn Square, W.C.1



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